EDUCATIONAL REVIEW

MARCH, 1903

I

IMPRESSIONS OF AMERICAN EDUCATION[1]

At rare intervals in the history of a nation there comes a great outburst of physical and intellectual energy which, with overmastering power, carries forward the masses of the people, together with its leaders, in an exhilarating rush of common effort. In the United States of America such a movement is in progress to-day. It reveals its force at three points—the American workshop, the American office, and the American school. Of the tremendous power of the movement no one who has witnessed it can doubt. But whither it will lead he would be a rash man who would dare to prophesy. These great national movements often turn in new and unlooked-for directions with an accumulated force which breaks old bounds and tears entrance into new channels. Those who seem to lead the movement believe that they can guide it toward some chosen goal. But they often find themselves swept along in the flood toward some unexpected issue, thru gaps in ancient barriers which looked immovable, but prove to have been sapped and weakened by slow and hidden changes in national character and in national belief.

The great movement now going forward in American education is but one aspect of the national movement which is stirring to its depth the whole of American life. Hence its profound significance, not only to Americans, but to the Old World, and not least to us who, geographically, politically,

[1] An address delivered at the Annual Congress of the Educational Institute, Glasgow, Scotland, December, 30, 1902.

and spiritually, are, as it were, the link between the Old World and the New.

It is appropriate for us, here in Glasgow, to consider the meaning of these things. The fame of Glasgow is significant of sea power and of trading enterprise, and in regard to both of these the United States seem destined to play a great part in the world's history.

And it is fitting in a congress of Scottish teachers to consider what American schools and universities are seeking to accomplish for American life, because in the great movement now going forward for the deepening and strengthening of American education, men of Scottish or Scotch-Irish ancestry are bearing a prominent and influential part. These men are proud to trace back their descent to the Covenanters or to those Scottish Presbyterians who, settled in Ulster in the earlier part of the seventeenth century, found themselves driven to emigrate two generations afterward by the hostility of the English Parliament toward the flourishing growth of Irish manufactures.

Before I plunge into the details of my subject, I will venture to say one word as to the point of view from which to approach it. A great and famous Scotch philosopher, once, I believe an unsuccessful candidate for a chair in this University, used to say that the power of seeing the favorable rather than the unfavorable side of things is a turn of mind which is worth as much as being born to an estate of ten thousand a year. The Americans have this turn of mind. They prefer to talk about the bright side. They leave the dark side to one's natural powers of observation and of inference. No one can form a shrewd judgment on American education who merely sees what he is bid to see, and who refrains from employing his critical faculty as well as his organ of admiration. The comparative study of national systems of education is a delicate enterprise. The path to truth lies between Scylla and Charybdis; between harsh, censorious judgments of other people's failings and too ready belief in the superior merits of other people's achievements. But the first requisite for the intelligent study of a foreign system of education is sympathy. We must

do as we would be done by. We must endeavor to enter, to the best of our power, into the spirit of patriotism and self-sacrifice which always animates any living and progressive system of national education. Imitate it in any mechanical or literal way we cannot: profit by it we can, but in order to profit we first must sympathize. Look at the favorable side first; then the defects will reveal themselves in due course and in due proportion. Then, and not till then, the way is open to a measured judgment. But it is both good sense and good manners to think first and chiefly of the favorable side of a foreign system to which we are admitted with graceful hospitality and in the spirit of professional comradeship. And I am inclined to think that if we, as a nation, take to heart the favorable side of American education, we shall find it worth a good deal more to us than ten thousand a year.

1. The first thing to which I would draw your attention is the fact that America—progressive America—heartily believes in education. That is the heart of the whole matter. America believes in education. The American school is radiant with a belief in its mission, and it works among people who believe in the reality of its influence, in the necessity for its labors, and in the grandeur of its task. It is the old story. The essential thing is faith. Faith can move mountains of inertia, and ignorance, and class selfishness. This glowing faith in the power of education is the saving grace of modern American life. All witnesses agree on the one point that in education all intelligent Americans heartily and unfeignedly believe. I have even heard it said that they don't really believe in anything else.

The words of Washington in his Farewell Address fell on fruitful ground. "Promote, as an object of primary importance, institutions for the general diffusion of knowledge. In proportion as the structure of a Government gives force to public opinion, it is essential that public opinion should be enlightened." That is one of the first principles of American policy. The Monroe doctrine is the second. Round the frieze of the Public Library of Boston, Mass., there are carved in plain letters fifteen words which sum up this central doctrine

of American democracy: "The Commonwealth requires the education of the people as the safeguard of order and liberty."

Thus regarded, education becomes at once a national thing. Its chief power in America is to make Americans. Stand at the Battery in New York and watch the great liners coming up the Narrows from the Old World. That is the gate of America, and thru it pass the poor immigrants of varied nationality, bringing with them a strange medley of discordant ideals, and in some cases not a little anti-social distrust of law and government. These are the raw materials of American democracy. The school is the mill which grinds up these diverse materials into one consistence. Once let that machinery stand idle or fall into disrepair, and the civic unity of America is imperiled.

But national unity is a moral thing. The means of conserving it must therefore make use of moral, as well as of purely intellectual, influences. Patriotism, tho protected by identity of economic interest, has its deepest roots in other than self-regarding instincts. And to those hidden sources of national strength any education, worthy to be called national, makes confident appeal. This is the note of all that is best in the new educational movement in America. It seeks to touch the springs of character. Its ideal is not a selfish and exclusive culture, but scholarship engaged in social service. "It is not scholarship alone," if I may recall those stirring words of Dr. Chalmers, "it is not scholarship alone that tells on the great masses of society, but scholarship impregnated with religion."

2. Thus America believes in education because education is making America. But the essence of a democratic commonwealth lies in the individuality of its citizenship. This eager belief in individuality is the second characteristic of American education to which I would invite your attention to-day. American firms advertise for "a live man." The American primary school is determined to produce a live child. For some tastes it succeeds only too well, but that is another story. For the work of the earliest grades of American education, the

harshest critic would give little else than praise. In the first four years of school life the American child is stimulated to self-expression and self-realization by teachers skillful in their art, and unwearied in their practice of it. The brushwork, the modeling, the simple compositions, the beginnings of scientific education, which distinguish this stage of American education are often excellent. Much is done to produce alertness of mind and body and to cultivate the faculty and habit of self-expression. What is too often lacking, as a background to all this stimulation, is wise restraint and discipline at home. Many American parents, in their desire to give their children a good time, seem to shrink from exercising parental authority in matters in which home and school should work together, and in which the school may fairly claim the help of the home. That, however, is an evil not wholly confined to the western hemisphere.

The atmosphere of the American school and college is an atmosphere of equality and of independence. Energy and self-confidence thrive in it. Whatever else is sacrificed, the individual is encouraged to express himself and to realize his native capacity as best he may. This readiness to encourage individuality is a characteristic of American life. It has profoundly changed the organization of their universities thru the development of what was called "elective studies." The same lesson is working in their secondary schools. And we can see the same principle at work in American industry, where great pains are taken to encourage the individual workmen to make suggestions for the improvement of processes of manufacture or distribution, and where there is almost a passion for hearing new ideas and for experimenting with new appliances.

But thoughtful Americans perceive that to stimulate individuality and self-expression is only half the work of a good school. The other half is discipline. Is there not high authority for the belief that the true beginning of wisdom is desire of discipline? But just as the yearning for individuality implies a philosophical ideal in which the individual plays a determining part, so does the belief in discipline

postulate a social ideal—a striving after some ordered organization of society—in which the stress is laid on duties rather than on rights. And here it is that American thinking has been weak, and American life is at present somewhat thin and poor. In old days the strength of American character lay in the discipline of Puritan society. But the bonds of that society burst under the pressure of modern life, and then there rushed out a wonderful energy, which had been long confined within the restraints of the older discipline. This energy, this powerful individuality, carried the descendants of the old Puritan stock thru the chief part of their new task of subduing to settlement and to the needs of agriculture and industry the northern part of the United States as far as the Pacific by means of the adventurous courage of pioneers and the resources of applied science. But this stage is nearly accomplished. What is needed next is a new social discipline, a new social ideal, dominating the lives and inspiring the devotion of the common people. But this is the very point at which chaos reigns. The problem of problems in American education is to foresee the social organization for which the children must be prepared. No American writer discusses this question with a clearer sense of its urgency than Dr. John Dewey, of the University of Chicago. "We must make," he says, in his *School and society,* "we must make each one of our schools an embryonic community life, active in the types of occupations that reflect the life of the larger society, and permeated thruout with the spirit of art, history, and science. When the school introduces and trains each child of society into membership with such a little community, saturating him with the spirit of service, and providing him with the instruments of effective self-direction, we shall have the deepest and best guarantee of a larger society which is worthy, lovely, and harmonious." Yes; but how shall we set to work to get some clearer notion of what the duties, the relationships, and the extent of these future adult communities are going to be? And what, in preparation for such adult duties, is to be the task of the home as compared with that of the school? Dr. Dewey indicates the drift of the need

—a need not confined to America—but he throws little light on the future evolution of American society.

3. Thus the American believes in education, because education equips individuals for the tasks of American citizenship. But those tasks are changing, because applied science has changed some of the fundamental conditions on which rested the old order of society and the balance of power between the great nations of the earth. Applied science, too, has drawn into inevitably closer political relationship the nations of the Old World and the New. The American flag in the Philippines is the symbol of the change. Education therefore must change together with the change in the world conditions, because it is with the new conditions that education must train the rising generation to cope. This conviction that great changes are impending in the subject-matter of education is the third great characteristic of American educational thought to which I would call your attention to-day. In every type of school strenuous American teachers are endeavoring to tear out the non-essentials. "Don't be cumbered up with a lot of unnecessary luggage in education," the American teacher pleads, "cut down your transport; don't make your pupils carry an ounce of unnecessary weight; confine yourself to the essentials; revise all your old traditions; lop away all superfluities. There is so much that a man ought to know that we must reduce the cost of the production of knowledge to the lowest possible figure by employing labor-saving appliances in education, and by avoiding to the utmost the waste of precious time."

This is the mood of the vigorous American teacher. It is also the mood of the vigorous American manufacturer. "If I were asked," says Mr. Young in his recent *Review of the American cotton industry*, "if I were asked to attempt in a single sentence a definition of the improved management [which characterizes the American manufacturer], I should say it is this: unceasing study and close analysis of the costs of production, and unresting endeavor to diminish any and every element in them by any departure from existing routine, or by any outlay of additional capital which close calculation

may show to be probably advantageous. To follow this policy is no American monopoly. But to follow it successfully these are necessary—a trained intelligence, an untiring energy, a complete freedom from the trammels of tradition, and a certain bold tho calculating adventurousness."

May I, however, in passing suggest the doubt whether we are able at present to decide with any sort of certainty what are non-essentials in our system of education. The enthusiasts of the French Revolution thought that intellectual enlightenment would suffice to bring about the social millennium. We know how far their confidence was misplaced. Nor has the modern world, which owed so much to the humanitarian ethusiasm of the French Revolution, yet beaten its swords into plowshares. In 1791 the famous Dr. Anderson, of Glasgow, sent to the National Convention in Paris a prophetic gift—a model of a newly invented cannon. They hung it up with the inscription, "The gift of science to liberty." Liberty must sometimes wish that science had thought of giving her something else. Anyway, can we not imagine debate arising on the subject whether or not military drill is an essential or non-essential of the modern elementary and secondary school? And unless appearances are very deceptive, military excitement is not wholly distasteful to the young American.

4. Some people are fond of informing us that, in the future, the extension of national trade will depend a good deal on the magnitude and efficiency of national armaments. Be that the case or not, we may at least hazard the prediction that industrial and commercial success will require the fulfillment of four primary conditions: (1) hard work and imaginative power on the part of the directors of industry and their organizing subordinates; (2) the harnessing of applied science in the service of business; (3) intelligence and skill among the rank and file of the industrial army; and (4), not least important, honorable fidelity to contracts, expressed and implied.

The American man of business has clearly grasped some at least of these primary conditions for industrial success, tho it remains to be seen whether in the long run high

tariffs and trusts are making for the health of American industry. The American manufacturers and merchants believe in education, and, with conspicuous generosity, back their belief. They are convinced that it is necessary to the future welfare of American industry and commerce to have good education all along the line. One most remarkable thing in the democratic education of America is that Americans are not content with supplying floods of primary instruction, leaving the rest to rather desultory effort or to sectional interests; they have grasped the fact that for national welfare under modern conditions the highest and most costly types of technical and university training are as indispensable as the kindergarten and the primary school. That great Glasgow professor, Adam Smith, to whom modern industry owes so much, and whose individualistic philosophy has been on many sides so congenial to the American temper, had no doubt as to the wisdom of providing, by public effort, for the education of the common people: "An instructed and intelligent people are always more decent and orderly than an ignorant and stupid one." But he threw the weight of his great authority against the state organization, or public endowment, of secondary and university education. On this side, the influence of Adam Smith (in many respects invaluable) was, for two generations at least, a *damnosa hereditas* to British liberalism. But America, which followed Adam Smith's advice as to primary education, has had the good sense to go elsewhere for lessons in regard to higher technical education. It is Germany that has taught America that a great modern state must strain every nerve to provide the best, the most practical, and the most efficient training, in universities and technical high schools, not only for the older learned professions, but for all the new kinds of scientific calling brought into existence by the marvelous development of applied science, and by the consequent growth of industry, of commerce, and of scientific administration. This is the lesson which our own country has still to learn. It is possible we shall be more willing to learn it from America than from Germany. Canada is jogging our elbow, and Canada is largely

Scotch. There are signs that we are beginning to learn the lesson, but we have not yet faced the necessity for spending largely on the higher and more costly developmen of modern technological education. The American business men have rendered their country a great service by insisting on the provision of the best kind of higher technical education. If the practical business men in Great Britain take the same view, and press as vigorously for the best and highest type of technical education, and for a modernized liberal secondary education as its only sure foundation —then our battle is won. The American organizer of industry believes, as a rule, in the college-bred man, but he insists that the college-bred man shall begin, as the American saying is, with his feet in the dirt. Modern industry and business need the products of the highest education, but they cannot afford to pay for, nor will they put up with, fine academic airs and fastidious nonsense, or unwillingness to do the rough work which everyone must learn to do who means, in truth and thru and thru, to learn a trade.

May we not therefore sum up the chief favorable characteristics of American education in some such words as these? America heartily believes in education. Rich and poor make sacrifices for education because they believe in it. The United States is organized as a democracy. Therefore Americans believe in developing, by means of education, individuality of aptitude and independence of character. But America is in large measure an industrial and commercial democracy. Modern industry requires initiative, self-reliance, resource, imagination, and command of applied science, not to speak of deeper things. The American man of business realizes that schools and universities can help him by furnishing him with able assistants. He, therefore, encourages the leaders of American education to adapt their work to modern business needs. But he knows that this cannot be done without great expense, and he does not flinch from bearing his share of the cost. These new demands, however, are throwing a great strain on American schools and on American teachers. The latter feel that their work must be brought into

gear with modern needs. Therefore, American teachers are experimenting in all directions, with a view to dropping non-essentials out of education, and to lessening the cost of production of active-minded, scientifically equipped men of business and affairs.

So far I have endeavored to follow David Hume's maxim, and, with a few interjections, to look on the favorable side of things. But, if I may presume on your patience for a short time longer, I desire to say a few words about what seem to me weaknesses of education in the United States. Every nation, and therefore every national system of education, has the defects of its qualities; and he would be an inexperienced and misleading critic who should represent American education as wholly worthy of praise, and should fail to indicate in a spirit of sympathy and of scientific truthfulness, what in his judgment are the dark sides of so bright a picture.

1. Americans use a striking phrase to describe certain inflated and unsubstantial forms of commercial enterprise. They say they are "built on wind." Some such thought must come into the mind of a cultivated American when he listens to some of the maxims which pass for political philosophy in many Americans schools. How, for instance, would an intelligent boy in South Carolina harmonize in his mind the truth of those words near the beginning of the Declaration of Independence, "We hold those truths to be self-evident, that all men are created equal"—how would he reconcile that maxim, I say, with the horrid lawlessness of such a case of lynching as we read of in yesterday morning's paper, or indeed with the normal attitude of the Southern white to the colored people? There seems to me a taint of unreality in many of the phrases which are still current in American political democracy, and the close dependence of the majority of schools on the good will of public bodies must lead to a certain want of frankness in dealing with problems of popular government in that part of the school curriculum which aims at giving instruction in the duties of citizenship. It is a fact of evil significance that in America the word "politics" is generally used in a bad sense. It connotes undesirable forms of politi-

cal influence. And it is notorious that, in some cases, municipal corruption has baleful results in the sphere of educational administration.

2. In the second place, there is grave doubt whether the stricter forms of intellectual discipline have not been unduly sacrificed in many American schools. The besetting sin of some modern methods of education is that they stimulate interest without laying correspondent stress on intellectual discipline. As it were, they feed the children on sweeties and plumcake, in a strenuous revolt against an austere tradition of too much oatmeal porridge. The American passion for candy and ice cream finds its counterpart in the schoolroom. Nor does home discipline restore the balance. There are complaints in well-informed quarters that the younger Americans find it difficult to focus their attention on uncongenial tasks. Part of the mischief is that parents at home listen far too readily to their children's criticism on their teachers. Sometimes the teachers flinch from giving rebukes for fear of incurring a bad name in influential places. But a more insiduous evil is the tendency on the part of teachers to make lessons interesting by avoiding the harder, duller, and more disciplinary parts of the subject. Of course, this is all a reaction from the formality of the old tradition and from the dreary and somewhat heavy-handed dullness of an obsolete form of school discipline. And this reaction is again part of yet a larger one. The excessive desire for encouraging among young children what is called "self-realization," even occasionally to the point of impertinence, is a revolt from the repressive precision of the overstrict Puritan home.

3. Unreality and lack of severe discipline lead to a third weakness,—superficiality,—with its attendant evils, exaggeration in language and love of excitement. The Americans do not as yet sufficiently allow for the slow percolation of ideas into the mind. They make too many short cuts. They are too fond of the last new thing. They forget that a pupil gains true independence of taste and judgment, not by hastily absorbing the teacher's conclusions, or by listening

to selections made for him, but by slowly and thoroly working his way, under guidance and with encouragement, thru masterpieces as a whole, and thru masses of work bearing on his subject of study. In fact, is it not one of the chief differences between professional work and work that is amateur that the professional learns his business by going thru masses of the same kind of work often against the grain, while the amateur picks and chooses the things which happen at the time to take his fancy and to please his taste. All true culture has in it an element of stubbornness and persistence, which must be acquired, chiefly thru the lessons of life, but also thru the lessons of the school, which ought to prepare for life.

4. A fourth danger in American education proceeds from the tendency of American men to become unduly concentrated in business pursuits. The last thing for which I wish to hold a brief is want of application to business duties. But many Americans admittedly overdo their devotion to business affairs. They sterilize part of their nature by too great absorption in the excitement and struggles of commercial life. In the northern parts of the United States there is too little of what the writer of the book *Wisdom,* called the "diligence of idleness." Not that the American business man is sordid or pettifogging. On the contrary, he often brings to his business a strong power of imagination and a large gift of idealism. What he wants is not so much money for the sake of personal enjoyment, as money because it means power. He wants the intellectual and social distinction which are earned by marked business success. He wants to be counted with those who are effective, and who can bring things to pass. It is a great mistake to regard American business effort as mere dollar hunting. The real objects of pursuit are the power and the consideration which are conferred by wealth and by a great business reputation. But the practical result of all this concentration in business affairs is that the strength and interest of thousands of the strongest minds in America are drawn into the one channel of commercial competition. One is tempted to say that a special danger of American life is the pursuit of material success in the spirit of idealism, while the

converse danger in English life is the pursuit of ideal aims in the spirit of materialism. A great nation needs variety of interest, variety of culture, variety of type, and variety of standards of success. The number of the *Outlook* published in New York on December 13 contained a thoughtful article on this aspect of American life. "The country," it writes, "is full of men who are overworking, not because they care for money, but because they want to command the most comfortable conditions for their families, who, if they were told that they were shortening their lives ten years, would not hesitate to go on, accepting the sacrifice as part of their duty, and an opportunity to be welcomed rather than avoided. Those who know American men well know that there is a deep vein of idealism in the great majority of them in their attitude toward their families. It is here that they spend themselves lavishly; it is here that many give their lives without hesitation. But the American father does not always give wisely. The tragedy lies in the substitution in the family life of the material for the spiritual things, and for that exchange many men are unconsciously responsible. They are so eager to furnish comfort to their families that they forget to give life; they are so willing to surrender their strength and their time for those they love that they forgot to share themselves."

This overzeal for business forms an atmosphere which cannot but affect educational ideals. Intense absorption in commercial enterprise is not an aim worthy to dominate the thoughts and lives of the rising generation of a great people. Robert Louis Stevenson wisely said that "perpetual devotion to what a man calls his business is only to be sustained by perpetual neglect of many other things. And it is by no means certain that a man's business is the most important thing he has to do." There often rang in Stevenson's ears that noble answer of the Shorter Catechism to the question "What is the chief end of man?"

This subtle spirit of commercialism has worked another injury in American education. The training given in the primary schools has, as a rule, been far too much in the direction of clerical work. "Is it possible," writes Miss Jane Adams, of Hull House, Chicago, "that the business men

whom we in America so tremendously admire, have really been dictating the curriculum of our public schools, in spite of the convention of educators and the suggestion of university professors? The business man, of course, has not said, 'I will have the public school train office boys and clerks, so that I may have them easily and cheaply.' But he has sometimes said, 'Teach the children to write legibly and to figure correctly; to acquire habits of punctuality and order; to be prompt to obey; and you will fit them to make their way in the world as I have made mine.'" "Has," she asks, "the American workingman so far shared our universal American optimism that he has really believed that his children would never need to go into industrial life at all, but that all of his sons would become bankers or merchants?"

These are the impressions of American education which I desire to submit to your consideration to-day. I have dealt on the good sides, and also on what seem to me the darker sides of the subject, because it is necessary that we in this country should try to get a balanced view of the merits and defects of the educational system of a country which is in many ways so nearly related to our own. Too much depends for the future of the world on the outcome of the great educational movement in America for it to be becoming for us to rest content either with indifference in regard to it or with indiscriminate praise. Of all the educational movements now going forward in the world, that in America seems to me at present the most forceful and the most pregnant in great issues. It is of deep importance to British civilization that the relations between our country and the United States should grow closer and more friendly as the years go by. Teachers on both sides of the Atlantic can do much to foster this spirit of mutual sympathy and regard. And the more we study American life and American ideals, the more shall we come to admire the earnestness of American belief in education; the more shall we respect the pluck and devotion with which American educators are addressing themselves to their stupendous task, and the more heartily shall we wish them God-speed in their efforts and a happy issue to their labors.

MICHAEL E. SADLER

LONDON, ENGLAND

II

THE SECOND YEAR OF EDUCATION IN THE PHILIPPINES

During the past school year the work of organization and extension of public schools in the Philippines has met with many difficulties and hindrances, for the most part fundamental in character. Asiatic cholera with all its attendant horrors has visited the archipelago, and thousands of people have perished of this dread disease. The caraboa, which is to the Filipino all that the horse, the cow, and the ox are to the agriculture of the United States, has been almost exterminated by the scourge of rinderpest and the problem of transportation thereby made doubly serious.

To these great public calamities, with their unfavorable effect generally upon the educational work, has been added the necessity for curtailment of expense on the part of the insular government, which curtailment has seemingly fallen most heavily upon the educational department, with very depressing results upon the work.

At one time within the past year the appointment of additional teachers was forbidden, even to fill vacancies caused by resignation or death; nor was the promotion of any teacher to a higher salary allowed. This ruling by the Commission naturally had a very demoralizing effect on the entire force of American teachers, the majority being teachers of more than average education and ability, who had come to the Philippines with the expectation of promotion and increase of salary as the reward of merit and experience in the service. Another deplorable result of this action was that schools already started and in a flourishing condition had to be closed in many localities, and the faith of the natives in the educational intentions of our government thereby severely shaken. Furthermore, appropriations for needed school buildings and supplies were re-

fused or cut down, and much of the material that would have rendered most effective the work of the trained American teacher has been wanting. In brief, the General Superintendent of Public Instruction has been in somewhat of the position of a manager in charge of a plantation with a large number of skilled laborers employed, yet without a sufficient quantity of tools suitable to make the work most effective, and without the means to encourage merit by promotion.

However, since the return of Governor Taft, these conditions have been alleviated, and the recent amendment of the school law by the Commission authorizes the General Superintendent of Public Instruction to maintain the number of American teachers at one thousand, and provides for the promotion of worthy teachers.

In spite of the serious drawbacks above enumerated, an almost incredible amount of work has been accomplished within the past year, and the present educational situation is very encouraging. At the beginning of the year a deputy superintendent of schools was appointed for each province, and by recent Act of the Philippine Commission the provinces have been advanced to the dignity of school divisions, 36 in number, each to be in charge of a division superintendent of schools. While the reports show that there were 765 American teachers in the field at this time last year, 572 of these had just arrived and started for their stations. The work done prior to October 1, 1901, was really accomplished with less than 200 American teachers. But this year 926 American teachers, including division superintendents, have been engaged in the work. English instruction has been provided for 1838 schools, in which 200,000 children have been enrolled, and 400 night schools for adults and for those unable to attend day classes have been opened with an enrollment of 25,000. In addition, 23 high schools have been established with an attendance of more than 1500. Salaries of Filipino teachers have been increased, and a definite announcement has been made to them that the American teachers are not here to displace them, but to prepare them to take charge of their own schools. During the year 3400 native teachers have been employed in the educational work.

These Filipino teachers have received daily instruction in English, and when they have progressed sufficiently in the language itself, they have been taught methods of teaching.

The Manila Normal School, for the training of native teachers, has been enlarged and improved under the efficient management of Dr. E. B. Bryan, and vacation normal schools have been conducted in the various school divisions. Courses in normal instruction are also provided for in the new provincial high schools.

Industrial instruction has not progressed rapidly, but the industrial school at Manila has at present a steady attendance of 149, and plans have been made and appropriations secured for four other industrial schools. In the industrial field, the native prejudice against work has been a great drawback, as well as the lack of suitable tools and materials. Perhaps the most attractive class in the Manila Trade School, from the native standpoint, is that of telegraphy with 85 Filipino members.

From the foregoing brief statement it will be seen that a substantial start has been made toward educating the Filipino people, an undertaking of incomparable magnitude, for this archipelago, with its 21 Negrito tribes, its 16 Idonesian tribes, and its 47 Malay tribes, differing very greatly not only in degree of civilization, but in language, in disposition, in customs, and in laws, presents about as many difficulties to the establishment and administration of a modern scientific school system as can well be imagined.

The wisdom of Superintendent Atkinson's policy of making the English language the basis of all primary instruction from the start has been thoroly demonstrated. To-day everywhere within the radius of influence of the American teacher, instruction is being carried on in English, and text-books in arithmetic, in geography, and in other common-school branches are in the English language. Perhaps the best illustration of the advancement made in English education within the last two or three years is the fact that thousands of Filipino students, who had never heard a word of English three years ago, are to-day able to receive instruction in the common-school branches given in that language. Two years ago there were

less than 200 native teachers who could give any instruction in the English language; to-day there are more than 2000 actually teaching in this language and daily putting in practice methods and ideas learned in the American-taught normal schools and from American teachers.

The American teacher has become a recognized power in these islands, and no one acquainted with his work can doubt the wisdom of his coming. In the face of the splendid results he has accomplished, his critics have become silent. The advent of his influence marks the withdrawal of troops and the general betterment of the community. The following telegram speaks for itself, and it is but one of the many of similar nature received frequently:

HEADQUARTERS SIXTH SEPARATE BRIGADE, TACLOBAN,
June 28, 1902.

GOVERNOR WRIGHT, Manila:

Have just returned from a trip around Samar. I found conditions much better than expected. I think everything is all right. A few schoolteachers would be of great advantage to island. Fifty teachers could take the place of a regiment of troops.

GRANT, Brigadier-General.

The American teacher in the Philippines is something of a missionary, more of a pioneer, and always an American citizen. His duties, responsibilities, and opportunities are great and constantly increasing. On this subject, I can do no better than quote from the recent report of the General Superintendent:

> The problem before the American teacher is one requiring the greatest amount of thought. The teacher is needed but a short time each day, but the diplomat must be on duty continuously. As a rule, the American teachers have been most cordially welcomed, and have at once apparently become a necessity to those to whom they have been sent. Many are far removed in the interior, living on the native food, miles away from the nearest American, with only a glimpse now and then of the outside world thru the medium of a poorly equipped mail service—but with all these drawbacks, there is a bright side to the work, as is shown by the following remark made by an American woman from a New England State, "I really tremble to think of what I should have missed if I had not come to the Philippines."
>
> The responsibilities of the teachers are great, when the situation is looked upon from a broad standpoint, but it is a grand opportunity to

bring out all the manhood and womanhood that there is in them. That the majority are rising to meet this opportunity augurs well for the success of the educational movement and is a high tribute to the character and ability of the American teacher, proving conclusively that they will do their share toward the pacification and upbuilding of this Archipelago. The following extracts from the report of one of the division superintendents are of interest:

"The American teacher in the Philippines, and the problems which he must strive to solve, are not fully appreciated by those who have not been eyewitnesses to his work and surroundings.

"His chief duties are to teach five hours a day; to instruct the [native] teachers of the central school one hour daily; to organize, after his day school is running smoothly, an evening class for adults and to meet them three times a week for one hour and a half each time; to be tactful and patient in dealing with everybody he meets—especially the presidente.

"The surroundings to which he must adapt himself are hard and, above all, strange. There are only two ways in which he can provide food and quarters for himself. When two teachers are assigned to one pueblo, they can arrange for their own mess, hiring a cook and a muchacho. When there is only one, the situation is serious. He cannot afford to keep up an establishment by himself. If he is the only teacher in the pueblo and the pueblo is garrisoned, he has, in many cases, been invited to mess with the commanding officer. I have never heard of a teacher refusing this invitation.

"For one week, at least, after his arrival at the place to which he is assigned, the teacher is discouraged. From this time on he improves—that is, in four cases out of five. By this I mean that he takes hold of the situation and makes the most of it. He becomes interested in his work and makes friends among the leading people, interviewing members of the city council, explaining matters to the presidente, and winning his way.

"From the presidente to the smallest urchin, admiration for the American women in the provinces is unfailing and never-ending. The school children adore her. Their attentions become a burden, and it requires the nicest ingenuity to avoid giving offense and yet to have sufficient time for rest and recreation. The schoolhouse for girls is filled by 7.30 in the morning. In the afternoon they accompany the 'maestra' home. When the 'maestra' walks out the pupils waylay her and before she reaches her home again there are many 'compañeras.' If the 'maestra' wishes anything, there is a scramble to see who can have the honor."

The American teacher is the chief factor at present. The success of this great educational experiment depends upon his ability to establish sympathetic relations with Filipino pupils, parents, and teachers; to work day and night conscientiously and tactfully; and then patiently to await results. He needs to possess, besides scholarship and professional training, ready tact, plain common sense, a warm heart, and colossal patience. It should be noted that nowhere in the United States are the qualifications

for elementary teachers any higher than those exacted as a general rule by the Department of Public Instruction here in its appointment of teachers. They are either normal or college graduates and the majority of them have had at least two years' successful experience. Good health is required, and personal habits and character must be vouched for by proper authorities.

Success or failure, in a country like this, depends on the personal idiosyncrasies of the individual. Ambitious, restless young men, with perhaps a too great anxiety to get on in the world, placed in surroundings very different from their native land, especially if surrounded by discomforts, will naturally become discontented and, seeing the difficulties of the situation only from the one side, will be free in criticism. The General Superintendent wishes to express his great appreciation of the excellent character of the work done by the large majority of American teachers in the field during the past year, to testify to his appreciation of the great discomforts and long delays which have been patiently borne by them, and the help given by the teachers toward solving the problems which are inseparable from pioneer educational work in a country far removed from home and friends, in a different climate and among a babel of dialects. That so little complaint has been made is a striking illustration of the enthusiasm and perseverance with which the teachers have entered upon their arduous work and with which they have carried it thru.

The work of the American teachers during the cholera epidemic, which in many of the most populous provinces reached its culmination during the school vacation, cannot be too highly commended. In many cases, the teacher was the only American in the town. In some cases, there was not even a native or a Spanish doctor. Some teachers with a little knowledge of medicine, and all thru their knowledge of hygiene and sanitation, accomplished wonderful work in preventing and suppressing the dread disease. In the remoter towns, isolated from prompt aid which alone can save life when the most dreaded of all scourges makes its attack, with no command to remain, with the allurements of foreign travel during the vacation put sternly into the background, with no relatives or intimate friends to protect or to encourage them, these noble men and women fought by night and by day, week after week, for the lives of an alien people, with no thought or chance of reward, with a heroism that is far above the bravery of the soldier fighting a foe that can be seen and known. The United States may justly be proud of the bravery of its soldiers in these islands, but it should also remember that the peaceful army of teachers has shown a nobleness of spirit, a self-devotion to the services of humanity, a steadfastness and bravery of soul, that is rarely excelled. Nor did all escape unscathed. Those who died of the cholera were Robert R. Jamison, R. Zumstein, William H. Badger, and Herbert Lucker.

As always will be the case, among people coming from a temperate climate into the tropics, there has been considerable sickness among the American teachers. On the other hand, a large proportion of the teachers have been in excellent health during the entire time of their service here. In cases of severe sickness, teachers have been advised and permitted to return promptly to the United States.

The total number of deaths among American teachers in the Philippines to date is 15. Of this number, 1 was drowned; 4 died of the cholera; 4 were murdered by native *ladrones*, and the others resulted from various natural causes. The case of the murdered teachers is typical of many similar ones among the soldiers and constabulary, but it was a great shock to the Department of Education, since it was the first loss of the kind in the force of teachers.

On the morning of June 10, 1902, Messrs. John E. Wells, Louis A. Thomas, Ernst Heger, and Clyde O. France started from Cebu to the foothills north of the city for the purpose of enjoying a day's outing in the mountains and taking pictures of the scenery. They were warned by Constabulary Inspector Ross of the great danger from outlaws in these mountains, but it seems that they considered the danger exaggerated and decided to risk the trip. Nothing further was seen of them until their bodies were brought back to Cebu on the 23d of July following. The details of the long search and final recovery of the bodies, of the killing of the leader of the outlaws that killed the teachers, and of the capture of other members of the band have been well told in official reports and serve to illustrate the great difficulties attendant upon the maintenance of law and order in these islands.

The whole Philippine problem is more or less an educational problem, and the sooner this fact is recognized the better it will be for the public welfare. I believe that it is conservative to state that the Bureau of Education has done more within the past two years to give these peoples a true conception of the benefits of civilization and good government than all the other influences ever brought to bear on them thruout all time, with the possible exception of the Christianity brought to them by the Catholic Church. A combination of the religious forces with those of education would make the greatest possible power for good, and it is confidently expected that this desideratum will be brought about under the management of the new Commissioner of Education, Mr. Justice James F. Smith, formerly Colonel of the First California Volunteers and Brigadier-General U. S. V., who succeeds Commissioner Bernard Moses.

General Smith is a Catholic and a good American citizen, with broad legal, business, and official training. He has a thoro experimental knowledge of the conditions here, and his appointment meets with the hearty approval of the Americans in these islands.

No successor to the General Superintendent has been named at this writing.[1] Dr. Atkinson's resignation is generally deplored, as he had a thoro grasp of the situation and the confidence and respect of both Filipinos and Americans. He has accomplished much since he took charge of the work two years ago, and had he not been, to some extent, hampered by unfortunate conditions hereinbefore mentioned, it is believed that even a greater advance would have been made.

The future of the Filipino people is closely identified with the future of the educational movement in their behalf. Success or failure for the one means success or failure for the other. If the United States truly has at heart the best interests of the people of this archipelago, it can bestow upon them no greater beneficence than much-needed financial aid for their public schools. A Congressional appropriation of ten million dollars for Philippine education would do more toward the entire pacification and ultimate welfare of these islands than a hundred million dollars spent in maintaining armies, courts, and police.

FREDERICK W. NASH

MANILA, P. I.

[1] Since this was written announcement has been made of the appointment of Dr. E. B. Bryan to succeed Dr. Atkinson.—EDITOR.

III

BEGINNINGS IN COMPULSORY EDUCATION

Frequently the opponents of compulsory education in the United States have based their objections on the ground that it is monarchical in its origin and history. This was the stock argument against the Edwards Law in Illinois, and the Bennett Law in Wisconsin, in 1890. In both States political propagandists, interested only in spoils, succeeded in convincing certain classes that compulsory attendance laws were not only "Prussian in origin," but were "instruments of despotism" that should have "no place in the statute books of a free government." Common as the idea has been and still is that obligatory school laws originated in Prussia, it is wholly erroneous. It was not until October 24, 1713, that Frederick William I. issued the mandatory orders that developed into the Prussian system."[1] Then such laws had been tested by the ecclesiastical state of Geneva, the Estates of Navarre, and the duchy of Würtemberg. Such laws, too, had been in successful operation in Massachusetts for seventy-five years, and in Connecticut for nearly the same time.

Compulsory education, as understood in modern times, had its origin in the desire for universal education that accompanied the Reformation. The principle that "the safety and strength of the state" is in an educated citizenship, and its sequence that the state has not only the right to establish schools, but that it is its duty to do so, and, if necessary, "compel the attendance of its youth upon them," are both Lutheran in origin. They constitute the fundamental doctrines of the great reformer's address to the mayors and aldermen of Germany in 1524.[2] Thru

[1] The king issued the first law September 28, 1717. For its provisions see *Geschichte der preussischen Politik*, von Joh. Gust. Droysen (Leipsig, 1869), Vierter Thiel, dritte Abtheilung, Seite 418.

[2] An die Bürgermeister und Rathsherren aller Städte Deutschlands sie christliche Schulen, aufrichten und halten sollen.—Dr. Martin Luther's refor-

such propagandists as the "gentle Melancthon," Myconius and Justus Jonas, and with the aid of such wise rulers as Frederick the Wise and John the Constant in Saxony, and Duke Christopher in Würtemberg, they became by the close of the sixteenth century an essential part of the educational creed of Protestant Germany.

Calvinism was not different from Lutheranism in its provisions for education. When Calvin founded the ecclesiastical state of Geneva in 1542, he made education universal and, so far as he was able to realize his plans, it was obligatory. From Geneva Calvinism went to France, the Estates of Navarre, Scotland, and England. From France it went to Holland, and from England it was carried to America. In 1560 the Protestants of France urged unavailingly both universal and compulsory education.[3] Eleven years later, on the recommendation of that devout Calvinist, Queen Jeanne d'Albret, the Estates of Navarre passed a law making primary education compulsory. What Calvin did in Geneva John Knox attempted in Scotland. But Knox did not have the support of the civil authorities, and it was not until 1633 that an act for the establishment of schools passed Parliament. This act provided that "a school should be established in every parish, and the lands be assessed for that purpose."[4]

Early in the history of the Reformation Holland attained a higher standard of popular education than could be found elsewhere. Motley, in speaking of the institutions of Antwerp, says: "The schools were excellent and cheap. It was difficult to find a child of sufficient age who could not read, write, and speak at least two languages."[5] Professor Ludwig Häusser agrees with Motley. He says: "It is expressly stated in histories of the country that, notwithstanding its prosaic devotion to trade and commerce, learning, the arts, and earnest endeavors

matorische Schriften von Karl Zimmermann (Darmstadt, 1847), zweiter Band, Seite 517.

[3] The *History of pedagogy*, by Gabriel Compayré (translation by W. H. Payne, A. M., Boston, 1886), p. 120.

[4] *Report of commissioner of education*, 1889-90, vol. i. p. 221.

[5] *The Rise of the Dutch republic*, by John Lothrop Motley (New York, 1875), vol. i. p. 84.

after improvement, were equally cherished; that, besides the universities, there was everywhere excellent schools which had more thoroly imbibed the modern humanistic spirit than any other, and that culture extended even among the people. 'There was no country,' says a contemporary historian, 'where learning and culture prevailed so widely as among us; even in the Frisian fishermen's huts you might find people who could not only read and write, but discussed scriptural interpretations as if they were scholars.' Even if this is an exaggeration, it is well known that amidst their material prosperity a real desire for mental culture had spread among the lowest classes of the people. Friends and foes bear witness that in these countries the conditions of material and mental prosperity were combined to a rare extent."[6] As the Reformation advanced, greater zeal for the education of the masses followed. The first Synod of Dort met in 1574. This body passed a resolution urging "the servants of the church" to obtain permission from the magistrates to appoint schoolmasters in every locality. In 1852 the Estates of Friesland decreed that "the inhabitants of towns and villages should within the space of six weeks provide good and able Reformed schoolmasters, and those who neglected so to do would be compelled to accept the instructors appointed for them."[7] In the next year Zealand passed a law insisting upon education because "it is the foundation of the commonwealth." In 1586 the Synod attempted to make schools universal. It was ordered that schools should be everywhere provided with good schoolmasters to instruct the children of all classes of persons in reading, writing, rhetoric and the liberal arts as well as in the doctrines of religion and the catechism of the church." By the close of the century schools for the people had become municipal institutions and were paid for as were other expenses of municipalities.

In England during this period the state did very little for the cause of universal education. In all two hundred and fifty

[6] *The Period of the Reformation*, 1517–1684, by Rudwid Haüsser (New York, 1873), p. 288.

[7] *The Puritan in Holland, England, and America*, by Douglas Campbell (New York, 1892), vol. ii. p. 340.

grammar schools were established by the state and by private donations. These schools were for the middle class. They gave opportunity for education beyond primary instruction. What the masses of the people needed was primary instruction. This the state failed to provide. It came only by private benefice when the Reformation was far advanced.[8] Such was the origin of modern compulsory education, and such the progress that universal education and the principle of compulsion had made at the end of the sixteenth century. The next decisive step was taken on the American continent by the New England Puritans.

Many of the first settlers of New England had been trained in the best schools and universities of England. They were pre-eminently religious and had an abiding faith in the Calvinistic doctrines they had espoused.

Because of religious and political persecution in their native land they had come to a region uninhabited save by savages. Even here, amidst all sorts of physical dangers, they regarded ignorance as their worst enemy. It was "the covert of the papacy" and of every form of political despotism. Accordingly, as early as July 20, 1629, a school was established. In 1635 Boston took a more advanced step and made provisions for a public school. Philemon Pormant was appointed teacher. Pormant soon attached himself to the Antinomians and went to Exeter with Wheelwright. He was succeeded by the Rev. Daniel Maude.[9]

As the immigrants increased in numbers it became evident that more definite and adequate provisions for education should be made. On June 14, 1642, the General Court passed an order requiring all families "to teach, by themselves or others, their children and apprentices so much learning as may enable them to read perfectly the English tongue and to get knowledge of the capital laws, upon penalty of twenty shillings for each neglect therein."[10] Five years later, November 11, 1647, that

[8] *The State in its relations to education*, by Henry Craik, M. A., LL.D., (London, 1884), p. 6.

[9] *History of New England*, by John Gorham Palfrey (1860), vol. ii. p. 47.

[10] *Records of Massachusetts colony*, vol. i.

well-known law was passed beginning, "It being one chief project of yt ould deluder Sathan, to keepe men from the knowledge of ye Scriptures, as in an unknown tongue, so in this latter time by persuading from ye use of tongues, yt so at least ye true sence and meaning of ye original might be clouded by false glosses of saint-seeming deceivers, yt learning may not be buried in ye graves of or fathers in ye church and commonwealth the Lord assisting or endeavors."[11] Then follows the order that all towns numbering fifty householders should appoint one of the community to teach the children to read and write. Whenever a town increased to one hundred householders it was required to establish a grammar school to fit the youths for the university. The failure of any town to comply with these regulations was to be punished by a fine of five shillings, to be paid to the nearest school until the order was obeyed. In these statutes of 1642 and 1647 the parent was placed under legal obligations to educate his children, and the towns were placed under obligations to make adequate provisions for the education of all its youths.

As some of the towns failed to establish grammar schools, the penalty was doubled.[12] This was in May, 1671. Twelve years later an addition was made to the law. All towns of five hundred families or more were required to establish and maintain two grammar and two writing schools.[13]

Before the union with Massachusetts colony in 1671, very little was done by Plymouth for the education of its youth. Soon after the Massachusetts statute of 1647 Plymouth enacted a similar one. It seems, however, to have been a dead letter. As late as June, 1674, there was but one public school in the colony. This was at Plymouth.[14] In 1633 the General Court recommended that the several townships of the colony should organize schools.[15] This recommendation availed little.

[11] *Records of Massachusetts colony*, vol. ii. p. 203.

[12] *Ibid.*, vol. iv. part ii. p. 486.

[13] *Ibid.*, vol. v. p. 414.

[14] *An Historical memoir of the colony of New Plymouth*, by Francis Baylies (Boston, 1866), part ii. p. 93. See also *History of free schools in Plymouth colony*, etc., Massachusetts Historical Collections, second series, vol. iv. pp. 79–96.

[15] *Records of Plymouth colony*, 1623–1682, p. 211.

Ten years later more effective measures were taken. Then the court ordered that the thirty-three pounds a year necessary to defray the expenses of the free schools of the colony should be paid from the profits of the fishing at the cape. This order, however, was a provisional one. It was to continue in force only so long as it was necessary for the court to learn "the minds of the freemen concerning it." The freemen approved, and at the meeting of the court in the next year the order was confirmed.[16] In November, 1667, the court voted that all towns of fifty families should establish grammar schools; all towns of seventy or more families not having such schools were required to pay five pounds to the next town that had complied with the provisions of the statute.

When the union between Massachusetts and Plymouth was effected the laws of the former colony superseded those of the latter. This was accomplished in 1692 by a province law which re-enacted all the colonial statutes of Massachusetts except one passed in 1683. This province law remained unchanged until 1702, when the penalty for failing to establish grammar schools was fixed at twenty pounds per annum. The penalty was again increased in 1718. Upon towns of one hundred and fifty families it was fixed at thirty pounds. It was increased ten pounds for towns of two hundred families; and raised in the same proportion for towns of two hundred and fifty and three hundred families.[17]

These laws with slight modification continued in force until 1780. In the constitution adopted in that year the legislature was given authority to require the people of the State to make provisions for the education of the youth, and to compel their attendance upon the schools thus provided.[18] This authority was exercised in 1789. On the 20th of June, in that year, an act "for the instruction of youth, and the promotion of good education" was passed. The principle underlying this statute was the same which characterized the colonial laws from the very first. The establishment of schools was made compulsory. All towns of fifty families and less than one hundred were re-

[16] *Records of Plymouth colony*, p. 237.
[17] *North American Review*, vol. xlvii. p. 280.
[18] The Constitution of Massachusetts, 1780, art. iii.

quired to support one or more schoolmasters to teach the English language six months in each year. Failure to comply with this provision was to be punished by a fine of ten pounds. If a school had been kept for a part of the six months, then a proportionable part of the fine was to be assessed for such time as the school was not in session. Towns of one hundred families and less than one hundred and fifty were required to support a school during the entire year. If no school was kept, the fine was twenty pounds. If the school was kept part of the year only, then a proportionable part of the fine was assessed for the time the school was not in session. Towns of one hundred and fifty families were required also to keep a school during the entire year. Here the penalty for failure was again increased. For keeping no school at all it was thirty pounds; and a proportionable part of this for the time the school was not in session, if it had been kept for a part of the year only. The statute also provided a penalty of thirty pounds for the failure of towns and districts of two hundred families and upwards to establish grammar schools.[19]

The school legislation of Connecticut during the seventeenth and eighteenth centuries was much like that of Massachusetts. The first Connecticut code was adopted in 1650. In this was a provision for obligatory education that was almost a literal transcript of the Massachusetts statue of 1642.[20] Five years later New Haven adopted a code entertaining similar provisions. Both colonies, however, had schools prior to the adoption of these codes. In Hartford a school was kept as early as 1637 or 1638 by John Higginson, who was afterwards minister at Saybrook and Salem. New Haven colony was settled in 1638. The next year mention is made of a school in the records which seems to indicate the existence of one at this early date.[21] In 1641 it was ordered that "a free school shall

[19] *The Laws of the Massachusetts commonwealth, from November 28, 1780, to February 28, 1807* (Boston, 1807) vol. i. p. 469.

[20] *The Public records of the colony of Connecticut prior to the union with New Haven*, p. 520.

[21] *History of common schools in Connecticut*, by Henry Barnard, LL. D., in Barnard's *Journal of education*, vol. iv. (1858), p. 659.

be sett up in this towne." Mr. Ezekiel Cheever, to whom, with Elijah Corlet, Cotton Mather gave the praise of having saved New England from barbarism, was the first teacher.[22]

These provisions in New Haven remained in force until the colony was united with Connecticut in 1665. Then the laws of Connecticut superseded them. No change was made until 1671. In that year a revision of the laws was begun. This was completed and approved by the court the following year. The new code retained the obligatory provision of 1650. In addition there was a requirement for the establishment of a grammar school in every county.[23] The efficiency of the new code was increased greatly when the General Court ordered in 1677 that every town should forfeit five pounds for the support of the grammar school in that county, if it failed to keep a school above three months in a year.[24] At nearly the same time an act was passed that required any county town that failed to establish a grammar school to pay to the next town in the county an annual fine of ten pounds until such a school should be established.[25] In 1690 the court ordered the establishment of two free grammar schools, one at Hartford and the other at New Haven.[26]

A second revision of the laws took place in 1702. This revision was published two years later. It retained the "Act for Educating Children" as it was in the code of 1650. There were also two new features. A tax of "forty shillings on every thousand pounds of the list of estates" was to be collected in every town with the annual tax of the colony. This tax was to be distributed to those towns only that kept their schools according to law. The other new feature was one that required all towns of seventy or more families to keep their schools eleven months in the year. Towns of less than seventy families were required to keep their schools not less than six months.

[22] *Records of the colony and plantation of New Haven from 1638 to 1649*, p. 210.

[23] *Colonial records of Connecticut*, 1665 to 1678, p. 176.

[24] *Ibid.*, p. 307.

[25] *Ibid.*, p. 312.

[26] *Colonial records of Connecticut*, 1689 to 1706, p. 31.

In 1715 an act was passed to effect a more faithful execution of the "Act for Educating Children." In 1717 the law of 1700, which required towns that had seventy or more families to keep their school eleven months in the year, and towns with a less number of families to keep theirs six, was extended to parishes or societies having that number.[27]

In October, 1742, the General Court passed an act for a better regulation of the schools. In the same year, too, a committee composed of Roger Wolcott, Jonathan Trumbull, Thomas Fitch, and John Bulkley, was appointed to make a revision of the laws. This revision was not published until 1750. With a slight alteration, the "Act for Educating Children" was retained as it was in 1650. Another revision was made by Roger Sherman and Richard Law in 1783. The General Court, after careful consideration, at an adjourned session accepted this revision in January, 1784, and ordered it published. In the new code the obligatory provision of 1750 remained unaltered.[28]

Thus, at the close of the eighteenth century, schools for the people were demanded by monarchical Prussia and democratic New England. The educational principles of Luther and Calvin had become dominant. There was no question as to the right of the state to establish schools. It was acknowledged too that the state had the right to compel the attendance of its youth upon the schools it provided. Massachusetts and Connecticut asserted these principles and demonstrated their truth by legal enactment earlier than Prussia. But when Frederick William I. came to the throne, thru him and the greater Frederick Prussia demonstrated their truth as completely and with as much vigor as ever had been done elsewhere in the Protestant world.

JOHN W. PERRIN

WESTERN RESERVE UNIVERSITY,
CLEVELAND, OHIO

[27] *History of common schools in Connecticut*, in Barnard's *Journal of education*, vol. iv. p. 698.

[28] *Ibid.*, 703.

IV

THE CORRELATION OF MATHEMATICS

In the evolution of our educational system we have reached that stage where the organization of the curriculum is of great importance. In the past there has been long controversy concerning methods as applied to individual studies and much discussion as to the amount and variety of subject-matter to be taught; but a further profitable consideration of these questions must now wait upon the development of some principle of unification under which studies may be presented to the student with greater intelligibility and economy. The times seem to have changed. Formerly the schools dictated to the public the subjects they proposed to teach; but nowadays it is practically the public that dictates to the schools. The old academic barriers and boundaries have been effaced and the ancient landmarks of teaching have disappeared before the insistent demand that the school shall deal with problems that are directly derived from the needs of common life. This change in the attitude of the public has been comparatively sudden, and the schools, stiffened with long adherence to formal routine, find it almost impossible to cope with the rapidly changing conditions and new duties that are now thrust upon them.

In reorganizing the curriculum there are two things to be observed: first, a proper evaluation of the individual studies, and second, a determination of their natural interrelations. It is unfortunate that most teachers approach these questions with some personal bias which comes as an inheritance from their own student experiences and also from the fact that they, in many cases, have the point of view of a specialist in some particular branch of learning. The only chance for substantial progress in the reorganization of the curriculum lies in the common recognition of a few simple but fundamental principles that may be trusted to guide thru the dangers arising from personal prejudice.

It is trite, and it should be needless, to say that all learning stated in terms of psychology is simply image growth. All true teaching consists, first, in finding out what thought-stuff is essential to the well-being of the pupil and, second, in presenting it under the natural conditions which the laws of mental growth demand. In the last analysis the thought-stuff that furnishes the basis for the image is derived from energy manifesting itself thru the phenomena of nature of which man is a part. The presentation of these phenomena and the consequent mental reactions embrace the two essential factors in learning. From these are derived all the so-called subjects of study and upon these are based all true methods of teaching. The subjects thru which the manifestations of energy are presented are natural science and history; and the subjects thru which the mental reactions are directed include those by means of which the individual seeks to define his image. The first division includes what are sometimes called the thought studies, and the latter includes those which in the same classification are called form studies. Thought studies are those that have a knowledge content that is in itself of intrinsic worth independent of the process by which it was gained. Form studies include all the various modes of expression: making, modeling, painting, drawing, written language, associated with which are reading and spelling, oral language, gesture, form, and number. It is thru the use of one or more or of all of these means of expression that the image emerges from vagueness towards clearness, and finally becomes a definite product in consciousness. Each mode of expression has a special function in the process of image growth which is unique and which cannot be performed wholly by any other mode. It is the purpose at present, however, to deal only with form and number. In the growth of the image, it is the necessity for accuracy in quantitative results that makes a demand for form and number, and which gives to the various branches of mathematics a legitimate place in the curriculum.

The amount and kind of mathematical work to be provided for any given school course is not a matter of arbitrary legislation. Both are strictly determined by the demand that is made

in the various stages of image growth. This being true, it will be conceded that no subject has wandered farther than mathematics from the path of righteousness after false gods. Its isolation has become so complete as to be painful and it is almost universally considered as the bugbear of the curriculum. No class of teachers has done less towards bringing its subject into a vital relation with the work of other studies in the curriculum which involve the practical affairs of life, and yet the lack of no other subject more completely cripples the student in his thinking. Altho it is necessary only to refer to the history of the work done by the world's great mathematicians, to learn how inspiring the lessons in this subject may be, the schools still persist in stolidly feeding their pupils upon husks when they might feed them upon life-giving kernels of corn.

A cursory glance, even, thru any one of the scores of books on arithmetic, geometry, and algebra, that are now before the public will reveal at once the causes of the present barrenness of result in mathematical teaching. The problems are designed in the great majority of cases with absolutely no regard for the principles underlying image growth. Any dozen problems in any part of the book will deal with as many different subjects, and the opportunity for logical and consecutive thinking, so far as subject matter is concerned in the book as a whole, is wanting. Moreover, the problems deal uniformly with subject matter that possesses not the slightest interest for the pupil and for which he has no concern. Having thus divorced itself from thought-stuff of intrinsic worth, mathematics has become simply a science of empty processes. There is not another subject in the school that would thus dare desert subject matter, and, if it were not for the appeal which the study of processes makes to the puzzle instinct of the pupils, to an instinct which could be as well satisfied by a game of solitaire or chess, mathematics would not long survive in our schools. This condition is not confined to any grade or kind of school outside of those devoted to certain kinds of technical training. In the primary, and in the grammer grades, in the secondary schools and in much, and perhaps most, of the college work,

there is the same soul-stultifying grind with empty processes. It matters not what branch of the subject be considered, it is always the same. The arithmetics in vogue from the multiplication table to cube root are an assemblage of stupid tricks that vary almost like the fashions of the seasons and according to the wit of the instructor; geometry, a science of the function of form, a science of priceless value in the daily affairs of men, is an inextricable cobweb of triangles, rectangles, and the rest, that merely befuddle and weary the brain; algebra, the matchless method of dealing with the equation, without the principles of which our thinking would be absolutely impossible, has been so degraded that in the mind of the average student it ranks no higher than the puzzle corner in a country newspaper. This has all come to pass in spite of the fact that the processes in any subject are always easy when they are regularly developed thru an effort to form an image. They are easy because processes represent but the operations which the mind naturally performs in dealing with a given presentation of thought-stuff. They are simply a method of thinking. But when they are once emptied of their thought content, they necessarily become inexplicably difficult. The question of the hour in the teaching of mathematics is not how do pupils in their thinking develop ideas of exact quantitative results, but ideas of what quantitative results are worth developing.

In the face of this somewhat discouraging condition it is not specially cheering to consider the means generally suggested for its amelioration and improvement. Practically everything written deals with the processes. The desirability of useful and educative thought content is rarely considered. As a consequence the measures of relief proposed are generally of an absurd and random character and they usually appear under the guise of a "new method." Sometimes it is urged that there should be no number in the primary grades; then it is proposed to make it more palatable by the use of empty diagrams, of shoe-pegs, toothpicks, or toy money. Some time since it was thought relief might be obtained by introducing algebra into the grammar grades. But this has resulted in substituting for one set of meaningless symbols another set that

is even more mysterious. Once in a while somebody makes up a thin geometry and labels it " elementary," but so far as I am aware, with the exception of *My class in geometry* by George Iles, there is not a single one in existence that is not bound hand and foot to the method and form of the old Euclidean theorems.

The singularly unfortunate position in which mathematics finds itself is due in part to the mistaken idea that a constant manipulation of mathematical formulæ has a peculiar disciplinary value whether they give any decidedly useful result in knowledge or not. The student who finds himself able to work his way thru a long mathematical puzzle but which contributes in no way to an image of educational value is supposed to have acquired a considerable amount of very desirable mental discipline. This, however, is considered a false educational idea when applied to any other subject, and it is contrary to history, which shows that the great mathematicians of the world have always acquired their disciplined powers while in the pursuit of knowledge having intrinsic worth. The dissociation of mathematics from its thought-content seems to rest still further upon a mistaken idea as to the nature of abstract reasoning. By permitting their pupils to use their mathematics as a means of determining the quantitative relations of the image, teachers fear that the mind will become so accustomed to the presence of objects that it will never be able to get along without them. If by this it is meant that their mathematical work would always be related to actually useful and material things, then it is an end to be devoutly wished. If it is the fear, however, that the student thus trained to use his mathematics will always find it necessary to work with yardstick in hand, and the object to be measured immediately before him, then the fear is utterly groundless. The same objection has been raised time and again in the teaching of other modes of expression and, as often, it has been shown to be without foundation. For example, at the present time most artists are afraid to allow the children to begin to paint the landscape as they observe it for fear they may be content always to slavishly copy what is placed before them. They fear that the mind by

this kind of training will lose all power to act unless it is being continually prodded by objects of sense. Another analogy is found in the now-all-but-discarded way of teaching reading and writing. We formerly taught letters first, then words; then unrelated sentences, on the theory that a child should acquire a vocabulary of a certain amount before actually beginning to read. So, by the old copy-book system, the child first made the elements of the letters, then the letters in almost endless repetition, then the words, and finally sentences before he was supposed to be able to use written expression for any educative purpose. But now this is all changed. From the beginning the child reads what is interesting because it reveals something that he wishes to tell and preserve as a record. But in mathematics this common-sense principle has not been systematically applied. Whereas, under the old system of teaching and writing, students did get somewhat beyond the process stage, in mathematics very few pupils ever get beyond that stage or even master it in algebra and geometry.

It must be remembered, of course, that every mode of expression as a process has its philosophy which is well worthy of study. That is, there are reasons for each step, and certain rules and laws that govern the process. It is manifest, too, that something concerning these should be taught as the work grows and as the necessities of image growth demand. That is to say, in algebraic subtraction, for example, the reason for the rule directing that the signs in the subtrahend be conceived as changed should be considered as far as the comprehension of the pupils will allow. But the development of the entire theory of the process should be reserved for a later and more mature stage, since it is a subject for philosophy rather than for mathematics.

The evils arising from the perverted methods of teaching mathematics are manifold. In the first place, the pupils are not rendered mathematically intelligent, and as a consequence they are deprived of one of the most useful and interesting aids in their thinking. The majority of the students who leave the high schools as graduates are neither rapid nor accurate in their ordinary calculations in the fundamental operations, while

the large majority, probably, would be found to be utterly untrustworthy in calculations where the decimal point is involved. Secondly, the so-called training that pupils receive in mathematics in the majority of cases effectually atrophies the mathematical sense or instinct. The pupils, long accustomed to omit in the development of their images all consideration of quantitative relations, finally reach such a benumbed mental state that these relations no longer make any appeal to them, and thus exhaustless stores of knowledge remain forever sealed. They become mathematically color-blind. And lastly, mathematics itself is unable to calculate the pernicious effect of such teaching from the viewpoint of morals. Suppose that from the time a pupil began to learn words, reading matter were placed before him whose pages were covered with words that furnished no stimulus to image growth! What would be the probable effect upon his literary taste? Or, suppose all thru his school course he were compelled to write letters that mean nothing more to him than hieroglyphics; what possible relation could such training have to the development of the real function of writing as a means of expression? Yet these suppositions are not far from the reality of what is done in mathematics. From childhood he drags his way thru thousands of exercises that mean practically nothing to him. By cajoling or compulsion he goes thru operations neither expecting results nor caring for them. It is a training, pure and simple, in blind submissiveness; it is a schooling in subserviency that tends to undermine character. For long years to systematically train the pupil thus to work without a purpose and to accept without question results that are incomprehensible or meaningless is to touch the heights and depths of immorality in teaching.

It would be unfair to assume that nothing has been attempted in the right direction for the improvement of mathematical teaching. There is, in fact, a fairly general consensus of opinion that beginners should use objects in connection with their number work. But there has been little advance for two reasons already mentioned, (1) the objects used are of such a character that the study of them gives no actual thought-con-

tent of any value; and, (2) because, under a mistaken idea as to the nature of abstract reasoning the pupil is soon deprived of the use of objects and is left thereafter to deal chiefly with empty formulæ. The instruction, then, if such it may be called, resolves itself into an unphilosophical attempt at memory drill. There is urgent demand now that a long step in advance of this position should be taken. The past decade has wrought out almost a revolution in the general character of school work as found in the best schools. There is now the most earnest regard for the natural and spontaneous activities of the pupils. The value of the thought content measured by its bearing upon the needs of the growing being is the thing that is considered of first importance. This has brought a wealth of subject-matter into the schools that is almost bewildering; or rather, it has abolished the old-time school with its barrenness of resource, and it has placed the pupil in direct contact with all the vital activities of his time. To this fact is due the sudden demand for all forms of art work that furnish the learners with his means of expression. It is inevitable that the pupils being thus called upon to consider quantitative relations should feel the necessity for mathematics and that the lack of provision for the aid which it alone can furnish should seriously handicap them in their progress. The new mathematics, therefore, must take the changed conditions into account. To-day as it enters the school it will find the pupils at work; it will find them thinking thru their hands in earnest endeavor to become active participants in the world's work each according to his ability. The whole universe of subject matter is laid under contribution and the pupil is encouraged to draw from it at will. It is currently believed that in this search after truth mathematics can play but a limited part. Yet if it be true that the universe and all it contains is a manifestation of energy, it must follow that mathematics in some aspect will have a place in the development of every subject. In the study of science it is at present most closely identified with the study of physics; but the need of it is already being recognized in the study of many other branches. In biology it finds an important place. An eminent biologist says that, in making a biological survey of our fresh-

water lakes and rivers, it is no longer considered sufficient to find that such and such living forms inhabit the waters at a given time; but by actually counting the individuals of different kinds that may be found in a quantity of water at a given season, the life-supporting power of the water at that time may be determined. And, still further, as these calculations are made with the passage of the months and seasons the life supporting power at different periods of the year may be determined and compared. Thus quantitative results in mathematical form are being demanded in the development of many subjects.

I have said that geometry is the science of the *function of form*. One need but look out of the window to see evidences on every hand of the importance of this subject in daily affairs. All construction in the interests of safety and economy demands the greatest mathematical nicety in the determination of the relation of function to form. The old geometric figures of the books are to be found to-day at work in every kind of construction. Here is the basis and the subject-matter for the new geometry. The demonstration of its theorems will be simply explanations how and why buildings and all other structures stand, and how and why machines do their work.

Even in physics, to which mathematics has been already a faithful ally, there must be a broader presentation than that now commonly found in secondary schools. A pupil may acquire some notion of the mechanics of a lever and the pulley thru proper use of a foot-rule and the ordinary laboratory outfit of pulleys. But in no case will there be so strong an appeal to the sense and imagination of the pupil as to their great function as there will be when he actually sees them as means in the accomplishment of the world's work. The lever and pulley will but lightly impress the pupil when they are employed to lift trifling weights which could be easily done without them. And, consequently, the random problems that now invariably follow the text are of the usual dry and uninteresting sort found in the stock arithmetic. In the average book on physics the number of problems far outruns any necessity

suggested by the text or by the teacher, and the study becomes degraded to a useless and monotonous drill.

Everything should be studied from the standpoint of its work—of what it can do. Botany is the study of the plant at work. Zoology is a study of the animal at work. Human history is the study of man as he has worked and as he is working at the present time. In this scheme of study mathematics has just two functions, (1) to measure the amount of work that is done, and (2) to investigate the means by which work is done or to determine the most economical measures by which it may be done. The geometry of a tree investigates the forces that act upon it and it explains the form the tree has assumed in its reaction against these forces. The arithmetic of the tree expresses in numerical terms two things, (1) the value or amount of force displayed in its growing and (2) the quantity of tree-stuff it is able under these circumstances to manufacture. But the geometry and arithmetic of the tree imply the geometry and arithmetic of the sunshine—the one leading the student possibly from an elementary investigation of its slant out into the boundless domain of celestial mechanics; the other perhaps from a simple numerical statement of temperature to the inconceivable figures that foot up its total work power on the globe. It is thus that the study of science must ever wait upon the services of mathematics.

It is obvious that the demand which the proper study of subject-matter makes for mathematics will inevitably work some radical changes from the usual methods of presenting the mathematical branches. Just as it is now considered proper to learn the various fundamental operations simultaneously because they are used to some extent interchangeably, so the subjects of arithmetic, geometry, and algebra must go practically hand in hand. The old linear or tandem arrangement of these subjects must be in large measure abandoned. The long-continued discussion as to when arithmetic, algebra, and geometry shall be introduced into school life has settled nothing. From the nature of the case it must ever be a fruitless controversy. Not even the edict of educational committees can dispose of it for the reason it is not a legislative matter.

The child solves the question for himself by introducing them all at once even before he enters school. He introduces them of his own accord because they are all a natural and organic part of his machinery of thinking. If the school actually did what its course of study usually claims to do, namely, to keep the study of geometry and algebra from the pupil until he is at or near the high-school age, the child during those early years would not be an educable being; he would be reduced to imbecility.

There is no finer exhibition of the inherent power of the human mind to develop than that in which it shows its ability to resist the outrages which an ordinary school thrusts upon it. With one of the most vital parts of his thinking machinery left almost utterly unheeded, the pupil does actually manage to get thru the schools; but no thinking person will claim that he represents a maximum development. The real question, therefore, is not, Shall we or shall we not introduce this or that branch of mathematics? but it is, Shall we or shall we not decide to assist the pupil in the further development of the mathematical powers which he began to employ spontaneously before he came to school at all? To this question there certainly should be but one answer.

Another important change in the teaching of mathematics relates to the degree of accuracy demanded in the results. Mathematics is an exact science; but it can be such only as it assists the pupil in the definition of a real image. The question as to whether the pupil shall use whole numbers or fractions will depend upon their use to him in picturing what he wishes to know. Teachers usually have some conscience about giving words to their pupils that convey no meaning; but the same teachers may be utterly conscienceless in requiring their pupils to carry out a decimal to a length that places it utterly beyond their comprehension. The same rule holds here that applies elsewhere; if, for example, the pupil can see the part that one-tenth or one-hundredth of a pint plays in his image, then the symbol may be used with intelligence; otherwise it is meaningless and should be avoided. This furnishes a clew to the proper principle for grading: instead of placing arithmetic

in one year, algebra in the next, and geometry in a third, the pupils should have the constant use of all these, each supplementing the others, and the grading should correspond with his increasing ability to image with exactness. In the earlier years larger quantities should be dealt with and less attention should be given to small fractional parts. This is because, first, the pupil has less skill in using the means of measurement; second, he necessarily must use larger units of measurements, and, third, because small fractional parts make no difference that he can appreciate in the final result. This plan of grading recognizes the possibilities of perpetual growth. By this method the student need not change the plan to the end of his days; he simply goes from one approximation to another of narrower range until step by step he reaches the limit of the human mind to image and the limit of the human hand to manipulate. In all of this his figures simply keep pace with his thinking.

As an illustration of the principles and methods that are here advocated an outline is offered of some work that was done in the eighth grade of the University Elementary School during the past year. The subject of botany is selected because in the study of plants it is commonly thought that no number work is needed. The pupils were allowed to take their time to work the problems out as their observations demanded. The mere reading of the facts brought out will give but little idea, to be sure, of the interest which the pupils felt as the picture gradually developed thru their calculations. In doing the work the following principles were observed in the interests of intelligibility and with a view to economizing effort.

1. There must be a clear general notion of the image to be developed.

2. There must be a careful selection of appropriate units of measurement. The units chosen should be such as will involve the pupils least in the details of process, and which, at the same time, will best approximately define the image.

3. The most expeditious methods of measurement, or of applying the units, must be adopted. Estimate first; then measure. Neglect the fractions that are inessential to that

general approximation which is within reach of the pupil's ability to image.

4. There must be careful selection of processes by which the comparisons are made. This will be determined by the pupil's ability to picture the different standards of comparison. The earliest processes will be simple addition and subtraction, multiplication and division; then the use of fractions; later, ratio; then percentage.

5. The results in the form of data obtained by observation must be represented objectively. Gallons, quarts, pints, feet, yards, square feet, square yards, acres, miles, etc., must be seen until they become a part of the mental equipment, just as, for example, an idea of the color green is always at hand and ready for use. Proportions should be represented by diagrams and models.

6. Using the results obtained as data, a great nature picture must be constructed; that is, thru the original and primary conception under which the pupil has been working, the real magnitude of world operations should be made to appear in definite quantitative results.

I. *The dispersal of seeds*—An attempt is made to form some idea of the rate at which plants might multiply, as indicated by the seed production.

1. Near the schoolhouse a vacant city block rather thickly covered with wild verbenas was selected for study.

2. By measurement and calculation this area was found to contain approximately one-fourth of an acre.

3. Areas of one square yard each were measured in various places, and the average number of plants was calculated.

4. An average of thirty plants per square yard gave approximately 36,000 to the quarter acre.

5. Each seed pod contained four seeds, one of which, on the average, it was found, failed to mature. The number of pods on a spike was counted, which when multiplied by the number of spikes, gave 2300 seeds as the average number produced by each plant. Since only three-fourths of the total number matured, each plant furnished, therefore, approximately 1700 good seeds available for growth.

6. If these good seeds were properly distributed, and if each were to produce a plant, the one-fourth of an acre the second season could populate 425 acres—approximately two-thirds of a square mile, *i. e.*, equal to an area bounded by Cottage Grove Avenue and State Street on the east and west, and Sixty-third and Fifty-fifth streets on the north and south.

The third season, under the same suppositions, enough seeds would be furnished to populate 1122 square miles, *i. e.*, more than six times the area of Chicago.

The fourth season, under the same suppositions, the area populated would be 1,907,400 square miles, *i. e.*, equal to about thirty-four times the area of Illinois.

The fifth year the number of seeds would be sufficient to furnish plants as thickly as those found on the quarter of an acre equal to sixteen times that of the entire earth.

II. *Seasonal conditions: were they favorable or unfavorable?*—1. *Rainfall:* One inch of rainfall furnishes 540 barrels of water per acre, or 135 barrels for the quarter acre. During the months of May, June, July, August, and September, when the verbenas grew, the rainfall due the plants, according to the thirty-years' average given by the Weather Bureau, is 16.1 inches, or 2229 barrels. The actual rainfall for three months in 1901 was 13.9 inches, or 1874 barrels. There was, therefore, a shortage of 2.6 inches, or 355 barrels. That is, from this cause alone the vitality of the plants was reduced by about 16 per cent. This may be viewed in different ways: (*a*) that only about eight plants out of ten would grow this season; or (*b*) that eight seeds out of ten would mature; or (*c*) that the general vitality was lowered, which would be felt the following season.

2. *Sunshine:* The Weather Bureau records for the past eight years show that this region has received 65 per cent. of the sunshine possible during the months under consideration. In the year 1901 this area received 68 per cent. of the possible sunshine. It follows, therefore, that, since plants are most active in sunshine, there was an overstimulation of 3 per cent. above the normal. Since, also, during sunshine plants are most active in the transpiration of water, and since there was

a shortage in the supply of 16 per cent., it follows that the combination of these two causes operated to intensify the strain upon the plant. The plant endeavors to resist this strain by reducing the leaf surface exposed to the sunshine.

3. *Temperature:* The average temperature for the five months for thirty-one years is 66 degrees. For the year 1901 the average temperature for the same months is 68 degrees. There was actually, however, an excess of 6 degrees during this time, as shown by the Weather Bureau record. This condition meant, also, not only a possible increase of plant activity; it meant more than the normal evaporation from the soil which would tend to cut off the water supply from the plant.

4. *Variation in intensity of sunshine:* On the 21st of each month the *distribution* of a given beam of sunshine at noon is proportional to the following areas: May, 108; June, 105; August, 115. These results are obtained approximately by the use of the skiameter. The *intensity* of the sunshine varies inversely with the areas of distribution. In the month of June, when the intensity of sunshine is greatest, the average cloudiness is 32 per cent.; in 1901 the average cloudiness was 31 per cent. Therefore, the withdrawal of the friendly cloud shelter by the amount of 1 per cent. in the month when the intensity was greatest served still further to increase the stress laid upon the plant in the year 1901.

These causes all happened to combine directly in this particular year to menace the future of the verbena. They also operated indirectly, so far as they favor other plants that know how to get along with the reduced amount of moisture and the increased amount of sunshine and heat.

The botany of the verbena, therefore, becomes chiefly a study of the various devices of leaf, stem, and root by which this plant is able to maintain itself against all these unfavorable influences, which the work in number shows to be actual and definite forces of enormous power.

In applying the principles of correlation it should be remembered that it is idle and fatuous to seek to derive the subject-matter of one study from the subject-matter of another. The attempt which has been made to base the subject matter of

nature-study upon that of history and literature is an illustration in point. In such a scheme, it is inevitable that one subject must be primary and the other secondary. Whereas, in fact, both are primary in that they are both directly related to the life of the pupil. The subjects are related to each other thru the life of the learner and only because he makes use of each and of both in the course of his mental growth. The first plan of correlation is limited and made rigid by the fact that it rests upon certain points of supposed correspondence that may be found and these may vary in the minds of different teachers. The second requires that the pupil's needs, only, be regarded in the choice of mental nutriment, and specific coincidences in subject matter are of secondary importance. The latter form of correlation is fundamental in its character, and it must, finally, profoundly affect the organization of our system of instruction.

WILBUR S. JACKMAN

SCHOOL OF EDUCATION,
THE UNIVERSITY OF CHICAGO

V

THE RELATION OF PHILOSOPHY TO GRADUATE STUDIES[1]

The philosophical disciplines have been assigned by general consent a prominent position among the humanities, and in any system of liberal culture such as our undergraduate curriculums they must be regarded as essential elements. The relation, however, of philosophy to graduate study is of a different nature, and more difficult to define. The aim of the graduate student who is seeking one of the higher degrees is no longer that of general culture. His work is not to be considered in the light of a disciplinary exercise—a kind of mental gymnastic. The time of training and preparation has passed. The days of academic tutelage are over. His endeavor at this stage of his career is to bring the already trained powers into action, to concentrate them upon some definite area of investigation with the serious purpose to know the truth and to see things as they are. His sole aspiration is to acquire scholarly methods and to do his work, whatever it may be, in the spirit of a scholar.

It will be well, therefore, at the outset to emphasize the essential characteristic of a scholar, namely, the love of knowledge for knowledge's sake. I do not deny, or would I in the slightest degree attempt to minimize the instrumental value of knowledge. It was a man of the shrewdest worldly wisdom, as well as a philosopher, who observed, "Knowledge is power." The utility of knowledge, especially in this age, is unquestionable. The more complete your equipment as a teacher, the more important will be the position which you will eventually secure. The more thoro your law or medical preparation, the more efficiently will you be able to prosecute the work of your profession. The deeper you lay the founda-

[1] A paper read before the Graduate Club of Princeton University.

tions of style and of criticism, the greater will be the art and facility of expression and the more significant will be your literary output. Your electrical training, your proficiency in chemistry, your skill in mechanical engineering, all this will be in peculiar demand in the days of strenuous competition, when the success or the failure of great corporations may turn upon the ability of scientific experts who are recognized masters in their specialty. Such a knowledge seems subject to a law which we may style a modification of the principle of the conservation of energy, namely, a given amount of knowledge may be transformed into a definite amount of profit, or of power, or of position, just as energy which is stored in coal may be transformed into light or heat.

But this kind of knowledge is not the stuff out of which pure scholarship is made. The knowledge that deserves the characterization of scholarly admits of no conservation in terms of practical units of value. The scholar is one who loves knowledge for its own sake. Now, in so far as he is actuated by this spirit in the pursuit of his investigations, the scholar is so far forth a philosopher. The old Greek mathematician and philosopher, Pythagoras, once said with the becoming humility of a scholar, "I will not call myself sophos, the wise one, but merely philosophos, a lover of wisdom." And in the same vein Plato defines the philosopher as "one who is a lover of the vision of truth." From this it will be seen that the spirit of the scholar and the spirit of the philosopher are one and the same. Between the physicist and the metaphysicist there is at least this one point of affinity, if so be that each is a lover of wisdom for its own sake.

Such being the spirit of the scholar, let us now inquire more particularly as to the essential features of scholarship itself. What is the task which every scholar must set himself? It seems to me that it is twofold—the accumulation of all available material within the range of his specialty on the one hand, and, on the other, the interpretation of its essential significance. This process of interpreting the results of research is one which consists in reducing the raw material, the crude ore of research, into some systematic and orderly form.

As we take cognizance of separate phenomena in experience, they appear as unrelated and contingent. They have for us a significance in the first instance entirely dependent upon the particular circumstances which may accompany them. We feel the bondage of the special case. It is the task of the scholar to regard each phenomenon in the light of its significance as a particular instance of some universal. The reference of the concrete case to its appropriate universal, or, if you please, to the constructive law of its being and activity, at once recognizes it as an essential element in a system whose harmony and interaction of parts are the result of the necessary and universal relations which they sustain one to another and each to the whole. The scholarly mind, therefore, is one that is able to sweep a bewildering mass of details into one comprehensive concept, and to unify dissimilar and often seemingly contradictory elements, regarding them as coordinate factors working together toward a common end; in a word, the chaos of conflicting phenomena is transmuted by the organizing processes of thought into the unity of an intelligible cosmos.

The work of the scholar is thus essentially constructive. He is to build the materials resulting from research into a system. He is to rise from the investigation of special cases to the region of hypothesis and law. He is essentially an interpreter, and not merely a collector of facts. To whatever extent his analysis may lead him, and with whatever experimental skill and resource it may be conducted, still he will remain deficient in the essentials of scholarship if he attempts no kind of synthesis, and is unable, therefore, to appreciate the significance of the results which the test tube, the telescope, the manuscript, the incidents of an historical period, or tables of statistics may have revealed.

This aspect of the scholarly ideal which has been indicated, and which should be especially emphasized, is in exact accord with that type of mind which is properly characterized as philosophical. For the problem of philosophy in its most comprehensive form may be stated as the attempt to rise from particular instances to the unusual concepts of which they are

the special cases. This is the Socratic contention as against the sophists. The latter represented in their teachings a vast body of shifting opinion, inaccurate and unscientific in the extreme. Socrates insisted that it was the duty of the philosopher, the true lover of wisdom, to discover the universal and necessary in the midst of this mass of conflicting opinion and varying circumstance. It is to his everlasting honor that the Socratic definition of philosophy gave to the world its first conception of what is meant by scientific thought, and it is the conception which obtains to this day, and is as follows:

"Philosophical in distinction from unphilosophical thought (or that which is equivalent, scientific in distinction from unscientific thought) is that which is able to penetrate beneath the surface appearance of phenomena, and discover there that understood ends of things or partial and incomplete experiences remain over in her mind. But she adds to this the desire to complete them; for example, to act herself in the way she has observed the teacher acting. For this purpose other children are from some standpoints better than buttons, but more incalculable and not always so easily obtained. Whatever the means employed, the child desires to put herself in a set of similar outside circumstances, mainly for the purpose of getting the same inside experience.

Another case will illustrate this more fully. A child of nine observed by the present writer was found by her mother going up the back stairs by herself in the dark, backwards, with her knees bandaged, and uttering a groan with every step. She was so wrapped in her occupation that her mother closed the door without distracting her, and could hear her continuing up to the top of the stairs. It should be said here that her aunt had been suffering from an attack of rheumatism and had been in the habit of going upstairs this way. It was evident that she was not making game of her aunt, or showing off. Was it, then, simply a case of imitation? Partly, but not wholly. When asked the next day why she was going upstairs that way, she hesitated shamefacedly, but finally said: "I just wanted to see what it would be like."

She had in reality designed an experiment, or asked a question of nature, in order to enlarge her experience.

The feeling and knowledge of causing the events which is the central part of any plan is sometimes prevented and sometimes increased by association with others. Suppose a child sitting on a bed balancing himself. He leans over a certain distance, and after a number of trials learns how far he may go without tumbling. If now the mother gives him a little push, and thus becomes a cause herself, instead of interfering, this actually gives the child the opportunity of greater causal activity, a condition which, if he has energy to spare, he appreciates and enjoys.

In this case it is to be observed that the mother has not made a plan for the child's life in which he had to fit, but has observed the life and intention of the child and has thus succeeded in making him more effective than he would otherwise have been.

Plans, however, may be made for others and without their consent, and yet be distinctly good for them. We may, for example, make a cradle for a child long before he would be capable of appreciating such a thing for himself. We may insist upon his learning the catechism in the same way. Plans made for others rather than with them may be, it must be admitted, fairly well adapted, especially to the lower order of the nature and needs of the persons concerned. Mommsen tells us that the professional classes in Rome were generally held as slaves. The choosing of their walk in life thus depended on the closest analysis and adaptation on the part of their owners. It was only the supreme planning of their life which was withheld from them. Below this, they were allowed to conduct themselves with a considerable degree of freedom. Such plans, indeed, necessarily raised the cry for better adaptation. In as far, however, as plans made for others inhibit instead of increasing the opportunity on their part of forming plans for themselves, they are destructive to the highest interests of life. Such plans are necessarily egoistic or aristocratic in character—the life which is to be lived is outlined by another.

Such egoism is to be distinguished from normal individualism in the fact that it does not lead to the best growth of either those who make the plans or those who fit into them. Neither master morality nor slave morality is adequate to the fullest life. One weakness of the person who makes the plan appears in his empty idealism. We may appreciate this best in the most intimate relationships of life. Love, as Meredith says, is the fiercest trial of egotism. Suppose a man who possesses a conception of an ideal woman. This conception is a plan he has made for the life of another. The woman that he thinks he loves, must fit into it and become part of it, in order to be loved. It may be said that he loves Love better than his lover; but this is after all his own idea, a part of himself. That is what he really loves. In proportion as he refuses to enlarge this he becomes auto-erotic, and cannot grow. It is the law of life that if we would develop we must love others, even if they do not fit into our most glorious plans. The philosophy of Jesus strikes the heart of this matter in the phrase, "If ye love not me whom ye have seen, how can ye love the Father whom ye have not seen." It is the whole concrete present and actual, however seemingly imperfect, that needs to be lived and ought to be able to be loved.

As for the persons planned for, it is needless to show that they also suffer from an empty idealism and a narrower range of individualism. To them belong the various degrees of the transferred egoism of the parasite. At present, emerging as we are from a period of clan life, it is natural that masses of people should show the narrowly selfish and primitive instincts of slaves. The reaction of Nietschze, altho one-sided, is perhaps well timed as well as beneficial.

Is it, then, the duty of altruism simply to sacrifice our own plans to the plans of others? But this itself would be really unaltruistic, since it would, if for no other reason, take away from others the opportunity of growth which the most intense and fearless expression of ourselves alone can give.

Moreover, self-abnegation, for its own sake, is simply a form of self-glorification. If one does a service just because

it is in accordance with his mere conception of duty or idea of his own rectitude, and not caring to do so because of the interest and love he has for another, he is really loving himself the best. On the other hand, if the satisfaction of personal joy and pleasure should not arise in the person rendering the service, it cannot be so much of a satisfaction to the person benefited, and may sometimes be rejected altogether. As Aristotle says, the good man always retains the best part of any sacrifice—he keeps the active deed of which the other receives the passive benefit, altho in strictness we ought perhaps to say that both these portions are equal.

The only help for the egoism of either side is in the mutuality of plans. This avoids mere antinomies of personalties, because it sets up something to be done in which, not simply the present and actual is contained, but the future life of each as he sees it after the purifying criticism and re-enforcement of his fellows. In other words, it emphasizes the possibilities of growth. The work which is no single person's work, but in which all have a share, not equal, but proportionate to his ability and power to execute, is larger than any one individual, but raises each to its level. A mutual plan is really a future society into which each individual sees himself ideally thought, which rises above particular phenomena to the laws of which they are the special cases, is essentially a philosophical mode of viewing things, and yet is by no means confined solely to the pursuit of philosophy. It is quite as characteristic of the methods and aims which should prevail in all of the sciences. Therefore, in the examination of the development of philosophical thought, we are unconsciously acquiring a general point of view that will prove of inestimable value when we come to handle the material which constitutes the data of our specialty.

In addition to the general advantage which may thus result from a mastery of the history of philosophy, there is another and a more special benefit which may be gained. It is this: In following the devious windings of the historical development of philosophical thought, thru its progressive and its retrograde movements, as seen both in the surface flow and the deeper cur-

rents beneath, it cannot fail to escape the notice of the observer that the history of philosophy and the history of the sciences may be traced to the same source, and that their courses have not only been often parallel, but in many cases have been merged in one. This is especially true of the history of the physical sciences. The records of history have been crystallized in language to the extent that the phrase, natural philosophy, came to be regarded as identical in meaning with the word physics. The early Greek philosophers were at the same time physicists. The philosophy of the world structure, the science of cosmology, was a most alluring subject to all of the Greek masters of philosophical thought—Heraclitus, Democritus, Pythagoras, Plato, and Aristotle. The atomists, in their philosophy of matter, applied metaphysical concepts to the science of physics itself. It was early discovered that without concepts which are essentially philosophical, such as the idea of matter, force, energy, and the like, there could be no adequate interpretation of physical phenomena. Physical science has always found it necessary to avail itself of such philosophical concepts as these,—that is, ideas which must be postulated, and which are not evident to the senses,—in order to interpret the data of the senses.

Plato's doctrine of "ideas" and Aristotle's doctrine of "forms" may be regarded as merely the Greek manner of expressing the concept of law which is so prominent in the modern physics. For the "idea," or the "form" holds the same relation to the special case as the concept of law holds to the particular phenomenon. And it may be remarked in passing that there has been no one who has so completely illustrated the modern scientific spirit as Aristotle.

In the revival of learning which ushered in the modern era and the age of marvelous scientific attainment, we find a group of men such as Campanella, Telesius, Nicolaus Cusanus, Leonardo da Vinci, Roger Bacon, Galileo, Francis Bacon, Newton, Kepler, all of whom we might with equal propriety regard either as philosophers or as physicists. Francis Bacon, in his contribution to science thru the insistence upon the value of the inductive method in research, must be regarded

pre-eminently as a philosopher, and yet as a philosopher he subserved the best interests of science. And it was in the name of philosophy that he exclaimed to men of science—"Back to the facts, to the phenomena themselves! There is the beginning of wisdom!"

The intimate relation between philosophy proper and the so-called natural philosophy cannot be better illustrated than in the life and work of such a man as Galileo. His philosophical point of view led him in his speculations to the formulation of the relation which obtains between quantitative and qualitative determination. This involved the application of a rigorous mathematic to physical phenomena, and laid the foundations for the science of mathematical physics. The generalizations of Galileo in this connection have furnished the key to unlock the great storehouses of scientific truth from his day to the present. Galileo, however, only stated in more precise and adequate terms the truth which Pythagoras, centuries before, had dimly prefigured in the mystic symbolism of his world system of numbers.

There is doubtless no concept having deeper significance as a methodological instrument than that of evolution. We are all agreed that every specialty must be treated from the standpoint of its development. The historic method has become a fundamental principle of research, and a universal light in all investigation. But the doctrine of evolution has not come to us full-fledged, nor was its birth in a single day, for the concept of evolution has had its history, its own evolution, and as we trace the lines of its development, we find its roots deep in philosophical soil. Aristotle had understood its meaning and had appreciated its significance, and that not in a crude way, but somewhat in the spirit of its modern formulation. In the nineteenth century Schelling and Hegel, in a speculative way, had outlined the doctrine which Darwin, Wallace, and others reached thru empirical methods. And here, too, it must not be overlooked that in the use of hypothesis and in the formulation of his sweeping generalizations, Darwin revealed as profound a philosophical insight, and pursued as rigorously philosophical a method, as Aristotle

himself. That which has been illustrated in the sphere of physical science, which seems in a way the farthest removed from philosophical considerations, may also be shown to obtain in other lines of special investigation. Not to multiply instances, I would refer briefly to the field of historical research, where indeed an appreciation of the philosophy of history implies an intelligent grasp of the history of philosophy. The movement of great events cannot be understood unless there be a profound study of the cognate and intimately associated movement of great thoughts. And if we should traverse in a similar way all of the sciences, we would discover that a philosophic habit of thought is necessary to realize the fullness of attainment in any sphere of special investigation. This does not mean, however, that the data of knowledge are to be prejudged by the speculative formulæ of philosophy, or that facts are to be wrested so that they may be forced to conform to some preconceived theory. It means simply that the facts must be so thoroly and essentially grasped that they will of themselves reveal the universal principle which they illustrate. Otherwise facts must remain mere facts, uninterpreted, without value in themselves, and without significance. Philosophy does not explain phenomena, but the explanation of phenomena is their philosophy. Whatever, therefore, your specialty may be, and however limited the area of your investigations, you must not overlook the fact that in what is most limited there may be a revelation of that which eludes all limitation, and that in every particular there lies concealed some universal, if only there be the full light of reason to illumine and to guide.

JOHN GRIER HIBBEN

PRINCETON UNIVERSITY

VI

CONFLICTING IDEALS IN THE TEACHING OF ENGLISH [1]

It requires but slight investigation in educational matters to discover that there is great difference of opinion on many questions of fundamental importance. With a view to determine in some measure how widely teachers of English composition are at variance in their theory and practice, two expressions of opinion, apparently as divergent as they could well be, were sent out by the Pedagogical Section in a recent circular of inquiry. The two quotations, with the appended questions, are as follows:

"English composition is already taught in the schools, but it connotes the art of writing clearly and correctly about ordinary matters and with such limitations as you expect in a good business letter; whereas, this book (Cornford's *English Composition*) is a manual of the art of writing as Stevenson understood it. Inspired by Continental practice, particularly the French, Mr. Cornford sets out to teach schoolboys to think literary thoughts and write them down with literary force and grace; . . . is it well to teach the literary art to English schoolboys? We do not think it is well; . . . it is alien to the genius of the nation."

—*London Academy*, 24 Nov., 1900, p. 496.

"I have always regarded rhetoric as dealing, in all its parts and stages, with real literature in the making, and composition, however humble its tasks, as veritable authorship. . . . To put the student frankly on the basis of authorship, . . . is to impart immensely greater reality to his study of rhetoric."

Professor J. F. GENUNG.

[1] An abridgement of the Report of the Pedagogical Section of the Modern Language Association of America, read at Johns Hopkins University, December 30, 1902. The officers of the Pedagogical Section are F. N. Scott, President, and W. E. Mead, Secretary.

Two distinct ideals of teaching composition seem to be suggested in the preceding extracts: (*a*) the art of writing clearly and correctly about ordinary matters; (*b*) the production of literature.

1. Which of these lights do you think the teacher of composition should chiefly follow?

2. Should there be any difference in the ideals of the teacher of composition (1) in the elementary school, (2) in the secondary school, (3) in the college? (In the college would you distinguish between (a) beginning classes, (b) advanced classes?)

3. In your opinion is it in any sense "alien to the genius" of this nation to teach schoolboys (as a class—the rank and file) to "think literary thoughts and write them down with literary force and grace," or to lead them to suppose that in their themes they are undertaking "veritable authorship"?

At the outset it should be emphasized that the Pedagogical Section as such has advocated neither side of the main question, and has not ventured to indicate whether there is necessarily any conflict in ideals or methods. In a purely objective way the attempt has been made to learn what are the actual opinions current on the fundamental questions of aim and method. We may regret as much as we please that other people do not think as we do; so much the worse for them. But surely the first step toward conversion is to discover how much we hold in common and how widely at certain points our opinions diverge.

The views about to be presented are taken from a mass of material that has poured in from a variety of sources, from college and secondary school teachers of English, from educational psychologists, from editors, and from professional men of letters. All, or nearly all, the great universities are represented, as well as many smaller institutions from Massachusetts to California. As was to be expected, there is considerable diversity of opinion, tho some of the diversity is largely verbal. At all events, the investigation, imperfect and tentative as it is, seems to prove the desirability of coming to something like

agreement on this fundamental part of our educational system. Until we do, we shall leave the problem chiefly to the publishers of educational novelties, or to the blundering ineptitude of teachers who drift along without aims or methods, and who, as in one case I recall, may be set to teaching English composition because they will probably do less harm there than elsewhere.

But I must not longer delay the presentation of the material which constitutes the real value of this report. In analyzing the opinions as to which of the two ideals the teacher of composition should chiefly follow, I find that they can be divided into three tolerably well defined groups, the first two decidedly favoring one view or the other, and the third aiming at a harmony of the two views expressed in the quotations.

I first turn to those who practically agree with the writer in the *Academy*. The reasons given are not in every case identical, but they emphasize in general the fundamental necessity of clear thinking and habits of accurate expression as "the absolutely essential preparation" for success in literary efforts. I need cite but two or three typical opinions.

"My experience," says one, "has taught me that students are in the end best prepared to produce literature when their preliminary writing has been upon ordinary matters with the purpose of teaching clearness and correctness."

Of the same tenor are the two following: "The boy is not to make literature in his theme, but his theme is to be judged by literary canons. Only one ideal can appear, therefore, and 'clearness and correctness' is a rung in the ladder to it."

"The majority of schoolboys are quite incapable of understanding literary ideas. Professor Genung's view may be well enough for exceptionally gifted students, not for the majority. The desideratum is the ability to write plain, straightforward English. Furthermore, I see no need of making composition, which, after all, is, for most people, a matter of plain common sense, the rather repellant but often fascinating thing which the terms 'real literature' and 'veritable authorship' imply."

A college teacher of long experience writes: "My conclusion is so decided that I am tempted to be impatient with anybody on the other side. All that the school and the college can require or seriously attempt is 'writing clearly and correctly about ordinary matters.' We may be devoutly thankful if we succeed in getting that much. To attempt more is to me hallucination."

These positions are unmistakable. The advocates of a training which aims from the outset at "real literature in the making," are for the most part less emphatic, tho some would lay the principal stress on that side, and, if they had to make a choice, would prefer to take their chances in attempts at producing real literature. But most of those whose leanings are towards an essentially literary training recognize the importance of the formal drill, if one is to be saved from slovenly habits of expression and from the flabbiness of languid æstheticism. In actual practice "an intelligent teacher will be governed somewhat by the nature and ability of his students." The majority, therefore, of those who advocate in a measure the development of the beginner into a real author frankly recognize the importance of both sides of the work.

Here as elsewhere I can present only typical opinions:

(*a*) "There is not so much difference between these 'ideals' as might appear from the rather unfortunate terms in which they are stated. If I am to agree with either, I agree with Genung; for I certainly would not restrict the student to such subject and manner as would be appropriate to a *business* letter. But then, on the other hand, 'ordinary matters' are the stuff out of which the best literature is made, tho it never can be made by rhetorical rules. When Stevenson wrote letters on 'ordinary matters' he made literature out of them every time; if the boy is a Stevenson he will make literature. If he isn't you can't teach him to make literature by 'putting him on the basis of authorship'—whatever that may mean. Teach the boy to express his own thoughts as best he can; never mind the literature."

(*b*) "To teach the art of literary expression, as a thing to be acquired apart from general culture and to be practiced apart

from the writer's genuine personality, appears to me a vicious proceeding. Instead of a race of sincere and virile thinkers, this method tends to produce a class of superficial stylists, with whom a few rhetorical tricks count for more than solidity of thought."

(*c*) "The only thing the teacher of composition can do—that is, the only thing susceptible of being imparted by teaching—is what may be called the mechanics of literature, what is included for the most part in writing clearly, correctly, and perhaps strongly. Beyond these qualities the pupil must work out his own salvation, according to the mind he has."

The next extract is especially important as representing the aim and practice of the entire department of English composition at Harvard:

(*d*) "It is our practice in the composition classes at Harvard College to help the great body of students, so far as we can, in saying simply and directly what they have to say; thus a large part of our work lies in showing young men how to remove obstacles to the effective expression of their thought. It is our further practice to encourage, so far as we can, any sign of literary power, and to encourage it without tempting its possessor to feel past learning anything.

"From what I have written, you will see that we try to adapt our teaching to individual needs. Sometimes we succeed, and sometimes we fail; but we believe in the effort. Incidentally, every teacher here, so far as I know, connects English composition with English literature wherever he can. I do not mean that he constantly asks students to write about books; I mean that he uses books as illustrations, not merely of bad qualities, but of good ones, and that he works hard to help students toward an appreciation of what is best."

(*e*) "It is absurd to set up as a goal of attainment, in school or college, the production of a copy. Yet this perversity is perhaps inevitable, the market for copy is so active. Draining one's wits for copy is poor business. The legitimate business of the school is primarily storing the mind with forms of knowledge and imagination, and then, as the stimulus of occasion comes, the re-assembling and combining of these forms

into original matter worth expressing with all care for correctness, and, so far as possible, with the elements of charm and grace.

"A literary ambition outrunning the mental supply is the cause of many of the weakest compositions. Hence the teacher has to be chary of solicitation for fine effects. If a pupil is not, and has not long been, a reader and an attentive listener, his mind remains sterile, and his composition must be set and formal; *his* best is to obey the rules of grammar and rhetoric. As I cannot segregate an original, inventing class from the plodders and docile performers of tasks, I cannot take my stand squarely on your (*b*); but must hover freely, with the privilege of alighting on either side of your line, almost as if it were not there."

(*f*) "Either extreme seems bad. I may be missing the point of the question, but I fail to see any justification for the existence of the two ideals as distinct. Few things, on the one hand, tend to become so dry, mechanical, and perfunctory as writing 'clearly and correctly about ordinary matters.' If the matter to be written about isn't to some appreciable extent a little out of the ordinary, a little out of the common run, a little worthy of attention because of some new phase to be noted, what difference does it make whether anything clear or correct be written about it or not? On the other hand, few things tend to become so dreary and remote, so trivial and sentimental, so empty of all reality, as 'the production of literature,' distinct from the ordinary matters of life, especially that 'production of literature' which is identified with the pumping up, or conjuring up, of 'literary thought' and the writing of them down 'with literary force and grace.'"

As to the question whether there should be any difference in the ideals of the teacher of composition in the elementary school, the secondary school, and the college, there is also divergence of opinion.

"Emphatically, no," says one. "The difference is one of degree, degree of maturity and degree of mastery of technique."

"The ideal should vary," says another; but the next opinion

is: "Tho the method may vary, the ideal is constant." This latter view is shared by a half-dozen others.

But the reservation is made by some that "there isn't much difference between the '*ideals*' of the elementary school and the college; but there may well be considerable difference in *method*, simply because the college man has come to have a different kind of thought to express from that he had when in the primary school. The method ought to be progressive, to match the expanding thought of the boy and man."

This view is variously presented, but the two following opinions are typical:

(*a*) "One doesn't teach a skater the grapevine twist in the first lesson; but the ideal of the beginner and the trained athlete is the same."

(*b*) "There should be no essential difference in the ideals of teaching composition at any stage of the student's course. The aim should be to teach him to use his mother-tongue clearly, correctly, and forcibly in treating subjects which he understands. With the student's advancement in knowledge and intellectual power, the subjects will, of course, assume a wider range. But at every stage simplicity and sincerity of utterance are worth far more, in my judgment, than all the literary or rhetorical tricks the student can be taught."

In the judgment of a decided majority there should, however, be a distinction drawn between the college and the preparatory school both in aims and in methods. Some, on the other hand, would not change the ideals or the methods except for the most advanced college classes, and some would make no concessions except to an advanced college class "made up of a very select list of picked men."

A mere summary can hardly do justice to the views expressed on this matter, and I therefore present as before a selection of the most characteristic opinions as phrased by those who hold them. We may note that emphasis is in general laid upon the importance of the early mastery of the mechanics of writing (even in such matters as the making up of manuscript), and the formation of habits of correct and clear expression. The last stage is then naturally the development

and perfecting of technique so that the expression may be a spontaneous and accurate transcript of the thought. Writing produced at this stage may in favorable instances possess both force and grace and display genuine literary quality.

(*a*) "My personal experience is that until a pupil reaches college he must work mainly for clearness and correctness; and scarcely more than one Freshman in fifty passes beyond this stage. Of course as the boy advances from the elementary school, he can do each year a little more in the way of adding interest to his writing. Literary ideals may properly be considered in an advanced elective course."

(*b*) "Decidedly, yes. Consider the preposterous assumption—that teachers in elementary schools or teachers generally *could* teach the art of writing with literary force and grace in any considerable degree. They will probably go as far in that direction as their natural capacity leads them, and I should tremble for the result of a conscious attempt at anything more.

"We distinguish *between the advanced* classes in college, setting one apart for confessedly literary work and putting it into the hands of one who is competent in literary judgment."

(*c*) "In the elementary school the teacher must surely have to aim chiefly at mere clearness and correctness; in the secondary school, some more conscious and definite aim at the cultivation of 'taste' in composition (as well as in speech) should constitute a modification of the method of the elementary school; in the college the aim should be to set forth the whole truth of the matter, that the employment of language is an art. The practical and the artistic uses of the art may then be fully defined. No teacher will allow the fundamental principles of clearness and correctness to be neglected when striving to secure something in the way of 'force and grace.' The ultimate aim of the entire course should be the cultivation of *good taste*."

(*d*) "In the primary school the aim of the teacher should be *exclusively* to train the pupil to express his thoughts clearly and correctly. It will not often be the case that pupils of this grade will 'think literary thoughts' of any higher grade than

the juvenile type, but such thoughts should be well expressed, if expressed at all; quite as much as 'ordinary' ones.

"When the pupil has reached the high-school grade he will in most cases begin to have 'literary thoughts'; generally not his own, but borrowed from his reading. It is important that he should be trained to express these thoughts *clearly* and *correctly*, if he uses them in his theme writing; as for the higher literary qualities of *force, harmony*, etc., I can see no reason why they should not have proper attention, but not at the expense of time needed for the other purpose.

"In the college I would have only literary composition. It seems to me supremely absurd to refuse to admit a pupil to college who commits errors in translation and grammar in his Latin or French and yet admit him without the ability to *read, write*, and *speak* the English language with clearness and correctness. The college should not be required to teach theme writing, with attention to such matters as punctuation, capitals, grammar, etc., any more than it should maintain a required elementary course in mathematics in order to assure itself that all the newcomers have mastered the multiplication table."

(*e*) "To all the subdivisions of this question I should be inclined to answer, yes. Premising that my inexperience with elementary and secondary schools may lead me to pronounce on the matter as I should perhaps not hold by in actual teaching therein, I would say: In the elementary school the pupil's interest, observing power, imagination, should be roused, and the subjects and exercises should have this in view, grammatical and minutely verbal matters being so incidental as not to check the observing and recording current of the pupil's mind. In secondary schools grammatical drill, choice of words, sentences, phrasing, and the like, should be the predominant matter, not on the score that these are best liked there, but because there is no other place and time so suitable to acquire them. We cannot always consult a pupil's mere likes and dislikes. In college I *have* to distinguish between beginning and advanced classes, partly because, to begin with, I have to bring considerable work left over from secondary schools up to date, and partly because it is inexpedient to enter upon

the higher matters of rhetoric without making sure of the practical matters on which these are founded. For beginning classes I go over the elements of style—words, phrasing, figures, sentences, paragraphs, but in a way which the ordinary secondary school does not do, namely, as elements in literary work, and with the higher qualities of these recognized along with the practical. For advanced classes the mere distinctively literary qualities come more to the front, and the finishing processes of the whole composition and of the literary types."

(*f*) "The too early attempt to produce literature stands directly in the way of clear and correct writing about ordinary matters. If the imagination of the elementary or secondary schoolboy is subjected to the forcing process, the results obtained are at the expense of observation, memory, and common sense. I should require of the pupil of the lower grades accurate relation of what he has seen, heard, read, or thought."

The third question is in a measure answered by the discussion of the two preceding questions. But a few words further may not be out of place. As regards the vague and somewhat pretentious phrase, "alien to the genius of the nation," the Pedagogical Section is unwilling to claim "veritable authorship." But the phrase, vague as it is, does suggest the practical question whether, in view of the sort of pupils to be found in the ordinary school, it is wise to emphasize the literary side of expression with a conscious aim at literary effect, and to organize the classes in composition into what may by courtesy be called associations of young American authors.

Having thus in a measure cleared the skirts of the Pedagogical Section, I may again give place to those whose opinions have been really asked for.

(*a*) "The writer in the *Academy* has not had in mind the fundamental facts, that language is a conventional institution, and its use an art. It never was contrary to the genius of any nation to use its language with 'literary' effect."

(*b*) "Taking literally the two statements quoted in the circular, I should agree with the former and disagree with the latter; that is, my answer to question three would be in the affirma-

tive. But regarding the spirit of each statement, my answer would be, as I have indicated above, in the negative. Nothing is 'alien to the genius of this nation,' I believe, that seeks to develop in any individual, even in a schoolboy, some sense of the meaning and value of the ordinary matters of life, a sense which probably reaches its highest and most delicate development in the perception and appreciation of those values which we call literary values."

(*c*) "If to think clearly, to experience the appeal of beauty, to respond to high ideals, is 'alien to the genius of this nation,' why should we attempt to teach anything?

"The boy that, unaided, constructs a wheelbarrow is a 'maker,' a poet. The boy that, unaided, joins two sentences together is an author in embryo."

(*d*) "I do not see how the thing you mention is 'alien to the genius of this nation.' In fact, where can we draw the line, in anything above a business letter or agricultural report, in such way as to include the grammatical qualities and exclude 'force and grace'? If students do not come to see, in our schools and colleges, that literary force and grace are *practical,* serve a matter-of-fact purpose, as applied to their proper subjects, where can they come to see it? A college course is a culture course; if it isn't, then our country has none."

To some of these opinions are opposed the emphatic negatives of more than one of the best-known teachers of English in the country, and, significantly enough, of those men also who hold a recognized place among American men of letters. I cite first the view of the editor of one of the foremost American dailies that can point to a past with literary traditions:

"To teach the schoolboy to think literary thoughts is a sheer impossibility, and to tell him that he is undertaking veritable authorship is to lie to him unblushingly. I speak with feeling, because a considerable part of my life is given up to people who have far more ability than the average schoolboy, and who are laboring under the delusion that they are competent to undertake veritable authorship."

Says one of our leading men of letters: "Schoolboys can't think literary thoughts." To try to teach them to do so "is simply impossible. To pretend that they can, leads to sham." To lead them to suppose that in their themes they are undertaking veritable authorship, therefore, "seems very dangerous, because misleading."

More than one college teacher thinks that the attitude of veritable authorship is unwise because, as one puts the matter, "it is alien to the genius of the schoolboy, and to the principles of common sense. In this answer I accept the phrase 'literary force and grace,' at its intended value. I think boys can be taught to write with force and grace, but I think it is useless to try to teach them to write 'literary' prose or poetry."

Another briefly remarks: "It stands to reason that it is alien to the common sense of any nation to begin with *Chartreuse* instead of *soup.*"

Equally emphatic are the two following:

(*a*) "It is not 'alien to the genius' of this nation, in *particular,* 'to think literary thoughts and write them down with literary force and grace'; it is akin to the genius of every nation. The *folk* will never have literary thoughts or literary expression.

"Our education is for large bodies of persons. The educated classes need some gift of expression, some training in the devices for securing clearness, force, and a moderate amount of use; above all, for securing order and method in what they write.

"How many of our college students, do you guess, have even this humble gift? Not one in ten, I should say. Why? Because school and college fail to convey the lesson that writing is part of the *business* of life, the genuine expression of what the writer really thinks and feels. Teachers and professors suffer their students to drift into the notion that writing is merely something that must be done for a 'pass'; get *thru* and you are all right.

"But writing 'business' papers, whether in science, or in history, or in literature even, is not 'veritable authorship.' My

conception of authorship is something far higher, something of an altogether different order. I am unable to define it, but I know it when it comes across my path.

"To teach 'authorship' to the ordinary mortal is mere waste of time upon the impossible. Going farther, I would say that we can't teach 'authorship,' even to the gifted mortal. We can teach him and his less favored brother how to outline his subject, how to frame respectable sentences and paragraphs. *There we must stop.* To attempt more is to do more harm than good. When one has learned from his teacher the ordinary routine of expression, one can only turn to the world at large, learn its wants, and try his hand at meeting them. Success in that is 'authorship,' whether in literature, in history, in philosophy, in science. Nothing else can be authorship."

(*b*) "The purpose of the schools, it seems to me, should be to prepare boys and girls, or young men and young women, for life; and life in this country is, in the main, eminently practical. It is true that it may be argued that the ability to 'think literary thoughts and to write them down with literary force and grace,' may not be unpractical, but the large majority of those whom we teach in the schools will not be called upon to do these things, and if they were, would not find that they have the ability to do them. Our chief purpose as teachers, then, I believe, should be to prepare students to meet the actual conditions which will confront them after they are out of college, and these are mainly practical.

"I may say in addition to the rather brief replies which I have given to the three questions, that my attitude toward this subject has almost completely changed in the ten or twelve years during which I have been engaged in teaching English composition. At first I felt strongly that it was the business of the teacher of composition to lead the young, or the older, to 'think literary thoughts and to write them down with literary force and grace,' and I expended all my energies to accomplish this end. My efforts were very satisfactory to me until I discovered that the people whom I had taught to write so easily and gracefully, and as it seemed to me effectively, were quite unable to express the ordinary ideas of life, either

with clearness or force. I have gradually grown to believe that as they express their thoughts upon ordinary matters which every day concern them, as they work primarily for correctness and clearness, they are better prepared in time for real authorship, and it is because of this experience that I believe as I do."

After this presentation of representive opinions on the question suggested by the two quotations, there can be little doubt that conflicting ideals, both in aims and methods, are firmly held by many of the leading teachers of English thruout the country. More than one passage, however, in the contributions to this discussion would seem to show that in some cases the differences are not irreconcilable, for there is general agreement that the less attractive, formal side of the art must be thoroly taught, as well as matters that are delightful and stimulating. It is probable, too, that all would urge the importance of sincere and natural expression from the beginning, and the avoidance of anything like posing, or whatever is characteristic of the literary prig. But, in the interests of educational theory and practice, it is to be hoped that the questions here raised will not be dropped, either here or elsewhere, until they have been discussed with the thoroness that their importance demands.

WILLIAM E. MEAD

WESLEYAN UNIVERSITY,
MIDDLETOWN, CONN.

VII

SOME EDUCATORS I HAVE KNOWN (I)

In an experience of thirty years I have known a few educators somewhat intimately, and a much larger number slightly, and as much as I can do in the treatment of a topic of this magnitude, will be an expression of my own opinion of some few who have left strong impressions upon my own personality. My aim will be to touch upon the strong points or characteristics of such, and to indicate briefly the causes which determined each to be what he was, or is, in the educational work of this country. It will also lie properly within the scope of this sketch to speak somewhat fully of those who have helped me in my studies, altho some of them were not actively engaged in teaching. A life is not unlike Freeman's conception of history—a continuous stream—augmented from many sources, and in this framework called *mind,* the vanished images leave a composite that I have endeavored to interpret in these short sketches.

A year or two after I became acquainted with Dr. Joseph Baldwin, I asked him about the "big men" in the educational work that he had seen or known. He said dryly: "You will soon be as big as the largest. They are only men, some a little larger, some a little less. Few will really appear great when one gets close to them." This observation had a depressing effect on me, and yet he was a man of the most exalted views. Later, perhaps a year thereafter, in conversation, he said: "Greatness is a relative term. A man may be a giant in one or two respects, but the merest pigmy in other affairs. Great talent is usually accompanied with great defects." With these preliminary observations, I shall now proceed to speak of some of the men whom I have known and whose opinions have influenced my work not a little, yet I cannot hope to trace all the subtle influences which have con-

tributed to make that complex being which must set me apart from others as an individual.

When I was a child, I was deeply impressed with that mysterious influence called learning. I had grasped, in some manner, absorption perhaps, that, outside of the language that we speak, there were two other great languages, the Latin and the Greek, which contained mines of information and wisdom not found in other books, and that one to be educated had to study these languages. I heard them talked of, and talked about, and that the New Testament had been written in Greek. It was about this time that a Methodist minister, Rev. John Mason, who was stationed at Kirksville, Mo., published a small pamphlet on the word "Baptism," and when I read it, I got the first insight into Greek. I read eagerly what he had written, except the Greek words; but he was a grim, gloomy kind of a man, and was not an easy person for a boy to approach. On one of his monthly visits to our neighborhood, I had an opportunity of speaking with him, and he explained to me something of the Greek, the Latin, and the Hebrew, and that conversation set me soon after to studying Latin and Greek, as soon as I could get grammars. He passed away to another charge. I lost all trace of him. I write these few lines as a tribute to his memory.

W. P. NASON

When I was a youth there came to Kirksville, Mo., a tall, spare, straight man, with gray eyes, brown hair and beard, a fiery temperament, who was destined to influence my life in many ways. He was a South Carolinian, of lofty educational and religious ideas, of deep sympathy and a noble and generous nature. From South Carolina he had drifted as a school teacher into Kentucky, thence into Indiana, and at last into Missouri, where he still lives. He opened a school in Kirksville, or in that vicinity, more than forty years ago, and at one time I was a pupil of his. The third term I tried to teach, he was a county superintendent, and he visited my school and spoke to the citizens on education. The lecture was founded

on David Page's *Theory and practice,* and this was the first real inspiration that I received as to the nature, scope, and purposeful work which the teacher ought to do. The idea that education embraced three great divisions seemed to me one of the grandest and most profound truths that man had ever thought out in his experience on earth. I had felt half intuitively the truth of physical, intellectual, and moral culture, but I had never seen the great force of these fundamental principles before. The next morning I was ready to repeat his entire lecture verbatim. It seems to me that his lecture that night was the most eloquent educational address I have ever heard. Soon I went to Kirksville just to borrow that book and read it. The day was very cold, the distance more than ten miles over a prairie, facing a biting northwest wind, and the thermometer twelve below zero. I rode on horseback, and when I was too cold to ride I got off the horse and led him, while I would run and get warm. I devoured the contents of that book that night and the next day. David Page had passed into my mind never to be effaced.

Time wore on till in August, 1867, Prof. Nason and I were engaged in the Kirksville Normal School by Dr. Joseph Baldwin, and for several years we worked side by side. After I went to Kansas City he remained in the Normal School some ten or twelve years longer. Now he is an old man, and one of the best and purest Christians I ever knew.

He was a born teacher. He put all the energy of his ardent, fiery Southern soul into his work all the time, and he was the best five-to-ten-minutes speaker I have ever heard. While he was never known outside of his adopted State, except as his thousands of students spread his fame, yet in Missouri, among those with whom and for whom he wrought, I know of no other one who has left a brighter or more lovely record, and whose genuine goodness is more deeply enshrined in the hearts of those who knew him best and loved him most. Coming in contact with him personally when I was most impressionable, his influence had much to do in molding my thoughts and actions. We differed most in this: He saw quickly. I had to work patiently and get hold more slowly. If light did

not come to him at once, he turned away. I groped doggedly in the darkness until it came.

JOSEPH BALDWIN

Dr. Baldwin was a great worker, a great manager, and a great inspirer of young men and young women. The very first year that I worked with him, Prof. Nason and myself soon came to the conclusion that it was his mission to inspire people to achieve great and noble deeds in making people better and wiser. Perhaps, if tested by uniform State examination questions, or such tests as are required by city boards of education, his record in several respects would have been very low, just as it has been recently said that Dr. Arnold would have failed in every one of the twenty-eight different points that a principal of a certain city school should possess, —yet he exerted a profound influence on the character of the boys that came to his school. Not a profound scholar, yet a vigorous and comprehensive thinker, Dr. Baldwin had thought out and felt out many of the problems of school-room management, class tactics, methods of presentation of subjects and subject matter, far better thirty years ago, in my opinion, than any other man in the United States. His optimistic views on education he had received from the profound logician and speaker, Alexander Campbell of Bethany College, Virginia, and also from Horace Mann. He seemed to have imbibed to the saturation point the running waters that flowed so copiously from their wells of educational inspiration. From him I gained insight into school work. He filled me, thrilled me, with enthusiasm to help the teachers and the children of this country to devote all my energies to teaching. We talked freely and often over all kinds of questions —the near as well as the remote; the past, the present, and the future in education, religion, politics, agriculture, commerce, but most of all of the problems of philosophy and of life in the future. He always saw greatness in the possibility of childhood and children. An intimate friendship covering a period of seven years with such a man, and then continuing some fifteen years longer till his death, consolidated my old

thoughts and added a great stock of new ones. But one is unconsciously made up of many component forces—life forces generated by others. While with Dr. Baldwin I approached him on many sides, perhaps on every side, of his life, in order to get his opinions just as Eckermann in his conversations sought to penetrate Goethe's very citadel of thought. It was not in the spirit of criticism, but for the purpose of getting his view-points in order to compare them with my own. His inner life I knew, and the high motives by which he was actuated. His greatness consisted in his nobleness of soul and the high ideals that he continually placed before the young people—the stimulating words to be somebody and to do something worthy and good.

He showed at his best as a platform speaker. His delivery was excellent, his articulation well modulated, and his sentences short, powerful, epigrammatic, abounding often in bold contrasts. He never descended, in public or private discussion, to the level of the mere quibbler. He discussed issues, not individuals. From him I learned a great deal, not exactly information, but wisdom. He was eminently a wise man.

JOHN WAYMAN

It is eminently proper that I should give a brief sketch of this clergyman, whose life for several years was so close to my own. He was a poor boy in England, partly deformed in one of his feet, and before he came to America he had learned the shoemaker's trade. He had attended school at Berea College, Ohio, and Prof. Aaron Schuyler was his teacher. There he received a good classical education, and later he came to Missouri and was placed in charge of a small circuit. I saw him first a year or two after the war had closed and he had come to our neighborhood to preach. He walked from Edina to Paulville, a distance of about twelve miles, and I recall now how he looked as he came up the road, stick in hand, slightly limping. He was rather tall, square shouldered, with black eyes and hair, and a large birthmark on his face. His manner and dignified bearing drew all classes to him. He was a Methodist, but without prejudice. The next year he was

located at Kirksville, Mo., and it was there that an intimate acquaintance sprang up between us. When the Kirksville Normal School opened in the autumn of 1867, logic was assigned to Mr. Wayman. He had a class outside of the school. Some five or six started in, but in two or three weeks the class was reduced to Samuel M. Picker, who was then a young man, Miss Sue T. Thatcher, and myself. Mr. Wayman had studied logic under Dr. Schuyler, and he knew Aristotle's and Sir William Hamilton's logic well. We studied it thoroly, and as he was enthusiastic, we were also. I had studied logic at school, but the text was weak and the teacher weaker. Under Rev. John Wayman it was great work, and ever since it has been one of my favorite studies. As a mental drill I rank it very high. We first used Coppée as a text; then Sir William Hamilton's lectures. For six years I taught the classes in logic, as long as I remained in the Normal School, and it was one of the most popular subjects that the senior class had. The subject is too much neglected in most colleges and universities now. Few students know anything of weighing evidence or detecting fallacies.

Rev. John Wayman induced me to read fiction. He regarded it as a necessary part of general education, and in these two directions he set me to work. He was a thoroly good man, of strong mind, of a pure and upright life. When I read of his death a few years ago, I paused in the reading to wipe away the tears, then put aside the paper and went out and walked aimlessly for nearly an hour. We face life and death at the same instant.

WILLIAM T. HARRIS

I first saw Dr. Harris in St. Louis in May, 1868, at a session of the Missouri State Teachers' Association. He read a paper which elicited much applause from a large number of the St. Louis teachers present. This was the first time, too, that I saw Mr. Thomas Davidson. A year or two afterward Dr. Harris began a series of annual visits to our Kirksville Normal School, and on those occasions he would examine

the classes in logic and mental philosophy, or psychology, as it was most frequently called; also, the classes in general history and the theory and practice of teaching. He soon began, after my first acquaintance, to recommend books for me to read. The first book was *The Science of thought,* by Prof. C. C. Everett. I have the volume I then bought of the publishers in Boston, and when Prof. Everett revised the work, a few years before his death, he sent me a new book. I corresponded somewhat irregularly with the author. My acquaintance ripened with Dr. Harris, and he has recommended a great number of books to me; the last was during the meeting of the National Educational Association at Detroit in July, 1901. While always naturally inclined to the lines of thought which lead out into the fields of speculative contemplation and the department of the fine arts as related to the historical development of the different kinds of civilization that have been reached in successive ages of the world, Dr. Harris has ever been to me the most potent guiding factor. His philosophical views at times seemed to be too subtle, yet the general drift pleased me even while I had to work out all my own problems as well as I could in my own way and from my own view-point. Certain great questions that would continually come forward which thinkers had to grapple with, I endeavored to understand, and I also endeavored to understand Dr. Harris' solutions as compared with my own thoughts on each particular subject under investigation. In taking hold of these deeper questions, and in trying to get at the root of the matter, Dr. Harris has helped me more than any other person. We seemed to touch at many points, while in other respects we were very much apart, so far as I could determine. Perhaps this was more in the matter of detail, especially in school work, and as to when and how certain things may be profitably undertaken, and what subject matter may, or may not, be introduced. In taking hold of questions, turning them over and viewing first one side and then another, even many of those of administrative policy, we have not often differed, and on the theory of grading rural schools, we stood in a woeful minority, and so on upon the "no recess plan"

which swept over much of the country some years ago. Many times I have felt that Dr. Harris saw into certain matters farther than I possibly could, and I was willing to let it go at that and plod along in my own way, asking myself occasionally what he meant if he should happen to put his thoughts into a concrete form, and I have no doubt that a great many others have had like thoughts. I never hesitated to ask Dr. Harris what he meant by a statement or a view that he held, but oftentimes an opportunity did not occur. He would always explain in simpler terms. As an illustration, he told me that he studied Plato hard for a year and a half before he understood a single thing that Plato said. He was groping in thick darkness. We can interpret the new only in terms of our own experience, and if this translation cannot be made it must remain unknown. On or along the lines of philosophy, literature in general, history, the philosophy of history, art, social organization, and philology, I am under the greatest obligations to Dr. Harris. He measures men and determines their limitations with great ease. He is a good man to tell whether one is clearing up the murky atmosphere or whether one is still going deeper into the fog bank. He has watched more mental curves, and predicted their paths than any other one that saw the beginning of the new century. Often he has said to me: "Continue to bathe in Homer, Plato, Aristotle, Dante, Shakspere, Goethe, Carlyle, and Emerson. Take sun baths in those daily." Of all the minds of men that I have come in contact with, either in books or otherwise, I regard Dr. Harris' as the richest and the most comprehensive. His ideas upon the literary, the ethical, the philosophical, the historical, and the artistic phases of education, have had more to do in shaping the educational thought of America than those of any other great man this country has produced. Of course, the new physiological psychologists, in some instances, have essayed to supplant the older views of the science of the soul, but wherever their opinions have come into sharp collision with Dr. Harris' theory of knowledge, ethics, religion, and consciousness, it was only to have their materialistic crafts water-logged, and

they were left wondering how it happened. Perhaps no other one has grown so thoroly into the limitations of such knowledge as he has, and has ascertained just what a certain line of investigation is capable of yielding. Every philosopher proposes to himself the resolution of certain definite problems, and his results depend entirely upon his own view-point, the method of work, and his grasp of the subject. Dr. Harris excels in comprehensiveness, concentration, and the exclusion of irrelevant matter, and it is to these qualities, aided by great natural aptitude, he becomes the most dangerous man in debate that ever entered the educational arena. He delights in puncturing educational, scientific, and other air bubbles, and he is a master in this art.

DANIEL READ

The first president of the Missouri University that I knew was Dr. Daniel Read, a man of gigantic proportions and of monumental information. He came from the University of Wisconsin to the University of Missouri just after the close of the Civil War, and he was president for ten or twelve years. It was during the latter part of his administration that I became acquainted personally with him. During the summer vacation of 1872 Prof. Joseph Ficklin, who was professor of mathematics, mechanics, and astronomy at the university, was at work on an algebra, and he wanted me to assist him, and I was with him about six weeks, working on the manuscript. President Read's office was near the room in which we worked, and visits were frequent. The doctor was a great talker, and all one had to do was to start him, and such a flood of learning as he would pour out in a great volume was overpowering. His knowledge was not only ponderous, but it was accurate. His mind absorbed, pigeon-holed, and then kept its acquisitions on tap ready for instant use. His particular subjects were mental and moral philosophy, international law, politics, and what not. He was as versatile, perhaps more so, than Lord Brougham, without the irascibility. He was the only man that I have ever known who could just stand up and make a speech in Latin without

hesitation. He could speak fluently for an hour at a time, maybe all day. He knew the *mécanique céleste* just as well as he knew the college algebra. That summer he reminded me of Olympian Jove—shirt collar unbuttoned and thrown back, shirt sleeves rolled up, sitting or walking the floor with a very stout cane in his hand, explaining some critical Biblical text to Professors Ficklin and Swallow and myself. He would deluge us in a cloudburst of learning—a regular washout. It made no difference what department of learning one touched upon, he was always loaded. Sometimes, after he had been directing catalogs for an hour or two, the colored man, George, had slipped out of sight, or more frequently dropped into a quiet doze, the doctor would call him,—then start, stick in hand, calling George, and as that cane struck the floor at every step, and as the sharp, high tones of the doctor's voice rang out "George! George!" we would quietly chuckle. An anecdote will illustrate one trait of the doctor's views, and his vigorous mode of expression. If there was one thing he did detest more than any other, it was the tobacco habit. There had been a large educational gathering in St. Louis in 1870, and the Laclede Hotel was our headquarters. The teachers from the northern part of the State had to go home on the Wabash Railroad. The morning we left the hotel there were fifteen or twenty men and women in the same omnibus, the doctor being one of the passengers. There happened to be a gentleman, a stranger to us all, inside, and he was puffing away at a cigar to the great disgust of several women. As we were driving to the depot the doctor let loose on the filthiness of chewing and smoking in the presence of ladies, and the women smiled, and I never heard such a dissertation and excoriation in my life. Soon the man threw away his cigar, and, for reasons unknown to us, he slipped from the omnibus, and he did not go out of St. Louis on that train. Being the first full-sized university president I ever knew, his immense learning I took as a sort of measure by which to test others since. From my acquaintance with him, I am firmly convinced that a man having a strong, vigorous body, a bold, elastic, powerful mind, retentive memory, ex-

cellent powers of classification and generalization, is able to map out and master quite well several fields of knowledge. Now, when I see little scrubby fellows, knowing something of one subject, with the whole alphabet pasted either before or behind their names, I believe President Read, who was a real doctor, would, if he knew them, turn over in his grave.

JOSEPH FICKLIN

One of the best-loved men that the Missouri University ever had was Prof. Joseph Ficklin. He was born in Kentucky, and when a lad his father moved to Missouri. After receiving a common-school education he was sent to the Masonic college that was once in existence at Lexington, Mo. After leaving that institution he taught school at Trenton, Mo., and was eventually elected professor in Christian Female College at Columbia, and in less than a year he was elected to a professorship in the Missouri University. This was about 1864, and he remained with the university till his death, in 1893.

Altho I had corresponded with Prof. Ficklin irregularly on mathematical subjects from 1866 to 1869, it was not till that year, during the commencement exercises at Columbia, that we met. In stature he was slender—hair rather dark, eyes intense and eager, of a grayish blue color, face and cast of features Grecian, and his entire bearing that of a soul in deep repose, brimming with an undercurrent of playful humor. He was a mathematician of great ability, particularly in difficult integrations and in mechanical and astronomical problems. His mind was a splendid combination of the theoretical and practical, and he was fitted in a high degree for the position which he so ably filled. There were few abler men than he in the United States on his special lines of mathematical and mechanical problems. His knowledge of Latin, Greek, and chemistry was comprehensive, clear-cut, and exact. He was one of the best-read men in the Bible that I ever knew, and every one of Dickens' characters he had at his fingers' ends. The summer we worked on the algebra together, he always worked with his long coat on, and I in

my shirt sleeves. We would probably work for an hour without speaking, and then he would stop and tell me a dry, quaint anecdote, and Prof. G. C. Swallow, the great geologist, would hear us laughing, and he would come in from labeling specimens, and call out at the door: "Triangles, what's the matter?" Prof. Swallow was a native of Maine, and he had come to Missouri when a young man, where he must have spent forty years of his life as a professor in the university before he went to Montana. From these two great men, each great in his own department, one in mathematics, pure and applied, and the other in geology, I received great help, not in the classroom, because I never saw either in the recitation room; but it was the contact with minds of a superior order.

Professors Ficklin and Swallow were men of high religious character. Once when I asked Prof. Ficklin to what he attributed his success as a teacher and student of mathematics, he said: "If one wants to dig a deep hole, one must dig in the same place." In order to know a few things well, he was content not to know a great many other things. When Prof. Ficklin died, I felt that a great light had gone out of my soul. He was the quiet, patient worker.

S. S. HAMILL

My object in introducing so many short sketches is to indicate the chief sources from which I derived benefit either by general contact or by the technical study of certain branches. Rather early in life I had formed pretty correct ideas on the subject of oral expression from the drilling I had received from Prof. S. R. Sweet, who taught reading and arithmetic well, and then later from a careful study of the instruction given to teachers in McGuffey's series of readers, and Bronson's elocution. From these sources I had derived a good general notion of what good reading is, and how it ought to be taught, and that there are certain definite underlying principles upon which the subject is based, and that in order to read well or to give directions to others, it is necessary to build up in the mind a system of knowledge or a basis upon

which to correct defects in utterance and action. Expression depends upon principles, and the one who does not know what to do when the defect exists can be of little benefit to the learner. It was not till I came in contact with Prof. Hamill, in 1869 or 1870, that I found one who had actually worked out a system of reading that was based on rational principles. He was a classmate in college of James G. Blaine, Prof. Swing, and other noted men who became distinguished in one way or another in the history of our country. Prof. Hamill was a man of commanding presence and of elegant manners—a Chesterfield in address and the art of conversation, and one of the most careful men in pronunciation, diction, and rhetoric I ever saw. His taste was high, critical, and comprehensive, and he never put aside his elegant manners or his dignity on even the most trivial occasions. In short, he was an accomplished and cultivated gentleman. He taught, in those days, college presidents, professors, and students in many institutions of learning, and he placed before them the soundest principles underlying the important branch to which he had devoted his best energies. He had analyzed every line of thought suggested or hinted at by the great Dr. Rush, coming on down to Murdock, Russell, and others. He had listened to all the great actors, native and foreign, that had been upon the American stage during his public life. His cast of mind was logical, analytic, artistic, and literary. He was one of the best rhetoricians that I ever knew. His forte was in the line of the pure, the simple, the terrible, and the sublime. Seldom would he condescend to the frivolous, unless the selection was from Dickens or some other author of repute. I studied under him, and then for two years I was associated with him in the same school. Before that I read the manuscript of his first book, *The Science of elocution,* and while I never became anything more than a fair reader, he regarded me as being one of the very best critics, and one who could, as it were, put his finger on the weak spot in one's reading and suggest the proper remedy. Thus, it will be seen that in a few years I built up in my mind a body of reading knowledge which I mastered and assimilated most thoroly,

and it has been of incalculable benefit to me in all the years that I have spent in supervising schools, and I believe that the knowledge which I obtained in this way, was and is of the highest practical value, farther reaching than one who is not familiar with the basic facts in reading can appreciate. In after years I gathered much from some other teachers in reading, but it is to Prof. Hamill that I am most indebted, and as I knew him then, he magnified the great work in which he was engaged for its own sake.

SAMUEL SPAHR LAWS

Upon the resignation of Daniel Read from the University of Missouri in 1876, Dr. Laws was elected president, which position he held till 1889. Prior to his election as president, I had heard his name mentioned occasionally as a teacher at Fulton, Mo., and as a minister of the Gospel. He was a stranger to me in 1876, and it was with no small degree of interest that I regarded him during the first few times we met privately, or at educational meetings. He was not quite so large as Dr. Read, but he was somewhat stouter and thicker. While I never had any way of measuring definitely the full expanse of Dr. Read's knowledge, yet on whatever subjects we happened to touch, he seemed to be perfectly at home, and upon my acquaintance with Dr. Laws, I contrasted his mental equipment with that of Dr. Read. It seemed to me that Dr. Laws carried the best-assorted, definite, and exact stock of knowledge of anyone I ever knew, with the exception of Dr. W. T. Harris. Having attended the common schools of his native State, Virginia, he entered Miami University and graduated with high honors in 1848, and he then entered Princeton Theological Seminary, where, after a three years' course, he graduated in 1851. On leaving Princeton, he was engaged a few years in pastoral work in St. Louis, when he was called to the chair of physical science in Westminster College at Fulton, Mo., and the year following he was elected president, which position he was forced to give up in 1861 on account of his Southern sentiments. After being imprisoned for several months he was forced to leave the

State, and he went to Europe, and returning to this country he settled in New York City, where he entered as a regular student of law in Columbia University, and was graduated. Later he was enrolled as a member of the bar in the city of New York. He next enrolled as a student in Bellevue Hospital Medical College, and took a four-years' course. His object in taking the medical course was to study up the normal and the abnormal facts of the bodily organism in relation to the soul. "I found," he said, "that the phenomena of consciousness could not be explained by mere force, and so set forth in my inaugural thesis on the dual constitution of man." Once, in speaking of this period of his life, he mentioned that he had done some very dirty work in order to get some very clean facts. As a student he preferred to read the Bible in the original, and he was never satisfied except he could get at the original sources of knowledge. While a fine classic and Hebrew scholar, yet he was equally at home in the sciences. In all kinds of metaphysical doctrines, he was one of the best-informed men in this country. While in New York he organized the Gold Board, devoted much time to clinics, and worked a great deal in the dissecting room to perfect his knowledge of the nervous system and the brain. He came to the university admirably equipped. Not only this, he was one of the most carefully read men along the sciences, not in one field, but along all lines, and particularly in biology, physics, chemistry, the teachings of Darwin, Weisman, Dawson, Tyndall, Huxley, Herbert Spencer, Joule, Mayer, Draper, Thomson, Maxwell, Le Conte, *et al.* His ideas were always on a large and high scale, and he is the most exact man in the explicit statement of his propositions that I ever heard speak. He acquired the habit because the newspapers and men sometimes did not quote him correctly. When I became well acquainted with him, and learned the wide range of subjects he had mastered, I regarded him as the best critically informed university president in this country. He had spent much time abroad looking into the great universities of England, Germany, and France, and it is my impression that he studied in Germany several years during

his early life. The last few years before he entered the Presbyterian Theological Seminary in South Carolina, he lived in Kansas City, and he was a constant attendant at the "Greenwood Club," before which he read several papers, and always took part in the discussions. He is a man of decided convictions, of gigantic and encyclopedic learning, affable and social in all his relations with his fellows, a profound and conservative thinker, and, in my judgment, the best-informed university president in America—but outrageously treated by a few psuedo statesmen in Missouri. He never acquired that peculiar characteristic of a college president so necessary nowadays—"to be a lusty beggar."

One of the greatest helps Dr. Laws was to me was along the line of specialization. We agreed most heartily upon the point that a young man ought to be a good scholar, before he entered upon a special line of work—that one of our greatest educational dangers was specializing too early—before one had anything to specialize upon. I have never indorsed the opinion that an educated man should just know one little bit of a patch of knowledge, and not cultivate some other fields. I regard the specializing theory without general knowledge as an educational fallacy, and when logically carried out, puts a part of the part for the whole. A man should be a man first, and then a human attachment to a piece of machinery afterward, if that be his choice. A dried-up thing is never a live specimen.

MORGAN STEVENS, ARTEMAS MARTIN, WALTER SIVERLY, WILLIAM HOOVER, AND OTHER MATHEMATICIANS

Just after the close of the Civil War I worked on the farm with my father, and I subscribed for the *Saturday Evening Post*, published in Philadelphia. This paper contained a column entitled the "Riddler Column," and in it were published enigmas, conundrums, and mathematical problems. Quite a number of gentlemen contributed mathematical problems and answers. No solutions were published. With the exception of Dr. Edward Hagerty of Baltimore, Daniel Diffenback of Pennsylvania, and Judge Scott of Ohio, the contributors were

mostly young men. I could work some of the problems at first, and in a year or two Mr. Morgan Stevens, Dr. Artemas Martin, Walter Siverly, and I answered a large number of all that were published. From these gentlemen I gained a great deal of valuable information in regard to methods of handling many problems of considerable difficulty, and with the most of us a regular correspondence was carried on which in some cases has continued to the present time.

Mr. Morgan Stevens was a native of the State of New York, a graduate of her State Normal School, and then of a university, he had moved to Scott County, Iowa, and was engaged in farming, which he followed till his death, more than twenty years ago. I visited him twice—once in 1872, and again in 1875. He owned a good farm, had an excellent mathematical library, but, during the last few years of his life, he was obliged to give up his favorite pursuit owing to an organic disease of the heart. Our correspondence covered a period of more than thirteen years. During our early acquaintance he aided me very much in my mathematical studies, and, till Dr. Joel E. Hendricks moved from Indiana to Iowa, he was the ablest mathematician, I think, in the upper Mississippi Valley. He was about fifteen years older than I, but he was always willing to throw light on obscure points. His knowledge was far above the attainments of the average college professor.

The last time we met I had him visit me for several days in Davenport, Ia., and while he could not bear excitement, it was indeed a great pleasure to sit and listen to his quiet voice recounting what he worked out at spare hours while he had been farming. He was one of the true men—better known by a select circle living far from him than he was by his neighbors and acquaintances.

About the same time I became acquainted with Mr. Stevens I wrote Dr. Artemas Martin, then of Franklin, Venango County, Pa., for the solution of a problem, which he kindly sent me. This was the beginning of a friendship which has lasted to the present. Dr. Martin is one of the most remarkable men of this country, and to-day, along certain lines of

mathematical thought, he has no superior and few equals. He is what is called a self-made man, as was Dr. Joel E. Hendricks. That is, he never attended school but a few months. But he has been a hard student all his life. He is a good mathematician, and one of the clearest writers of the solution of problems that I ever read. Every solution that he ever published, and he has published thousands in this country and Europe, is a model of neatness, clearness, and elegance. In Diophantine Analysis, the Theory of Probability, and Mean Averages he stands at the head. The only two that approached him were the lamented Prof. E. B. Seitz and Prof. Zerr, now of Philadelphia. I regard each one of these men as being somewhat abler than Prof. W. S. B. Woolhouse of Great Britain.

Dr. Martin is something more than just a problem solver. His library must consist of at least 10,000 volumes, and it is one of the best assorted and most unique in the United States. Dr. Martin did more for twenty or twenty-five years to stimulate mathematical studies in the United States than any other half-dozen men in it. He helped the young men, and he was all the time reaching out among them. Prof. John D. Runkle had published the *Mathematical monthly* about three years when the Civil War broke out, and he was forced to suspend its publication. Artemas Martin, a half-dozen years later, came upon the stage,—this "truck gardener," photographer, printer, and all-around worker,—and began editing mathematical columns in several school journals, and soon his name was a household word with the thousands of teachers and college professors. Tens of thousands of teachers were influenced by his letters and published articles thruout the country.

The revival had a widespread influence upon the mathematical thought of the country, and it involved a large number of young men in it, and it has kept spreading till now there are many mathematical journals and magazines published, containing in each number contributions of decided merit, and some of great merit. The beginning was low down, but it worked from the bottom to the top.

There was another influence at work along mathematical lines which augmented the one just mentioned. Some of our young men attending the German universities began to dip into mathematics beyond what was offered in the meager courses in our colleges and universities, and there sprang up a wonderful awakening in this department of learning in almost every first-class college and university in the United States, and this has led to an acquaintance with the very best and latest discoveries in the higher mathematics in all parts of the world. The United States has rapidly passed up the mathematical line in the last quarter of a century, till now the general level of mathematical knowledge in this country is not excelled in European countries. The great mathematicians at one time in any country are never a numerous body. It has been one of the greatest pleasures of my life to have known a few of the men of the former generation and of the present, and to have exchanged thoughts with some of them. In times of sorrow and disappointment I know of no other field of thought equal to that of the *peaceful mathematics*. No wonder Archimedes wanted the rude Roman soldier to wait till he finished the solution of a problem.

J. M. GREENWOOD

SUPERINTENDENT OF SCHOOLS,
KANSAS CITY, MO.

(*To be continued.*)

VIII

DISCUSSIONS

WHY BOYS GO TO COLLEGE

During the fall term of 1901 the University of Maine, the State college situated at Orono, near Bangor, issued to the new Freshman class a series of questions, asking them frankly what motives led them to go to college, and in the second place why the University of Maine had been their choice. This State university, the only one in New England that corresponds closely in purpose and working plans to the State institutions of the Middle West, had in 1900-01 a total enrollment, exclusive of the Law School, of 364 students. The Freshman enrollment at the time of the issuing of the questions was 136 students, of whom not over a half-dozen were women.

At the university the engineering and the scientific courses have until now attracted a majority of the students, the classical department having been established only within recent years; since the university is the only one of the Maine colleges offering engineering courses, and because the science courses are carried fully as far as in the other three colleges of the State, the university draws naturally from all parts of the State, as will also be shown by statistics. The figures presented by this article are therefore apparently fairly representative of sentiments existing among the preparatory school students thruout the State, at least among those who are particularly interested in engineering and scientific courses.

Of the 136 Freshmen, 65 answered the list of questions; the completeness and straightforwardness of the replies, and the additional oral communications and comments of many of the Freshmen, seemed to indicate that the responses were sincere. While the committee having in charge the gathering of the statistics could not feel absolutely confident that the students' statements were always uncolored by the desire to please, or by promptings to mischievousness, the noticeable agreement in the answers to several questions seemed to show that the

students were really desirous of assisting the university in arriving at the object here sought, namely, the most advantageous methods of developing and maintaining mutually helpful relations with the secondary schools of the State.

That the university is a college for the whole State was clearly shown from the fact that the 136 Freshman students came from 74 different preparatory schools, and that the 65 students replying to the questions represented 45 preparatory schools. As in so many other colleges, it was here noticeable that a large proportion of the class came from a small number of schools; 17 per cent. of the entering class of this year came from two schools in the immediate vicinity of the university, and six schools, all within the State, sent 30 per cent. of the Freshmen. The remaining 95 students represented 68 different schools, an average of 1.4 students to each school. This feeding from a few schools seems common to colleges big and little; a recent report from the president of Harvard states that the Cambridge university is fed from a large number of schools sending now and then a student or two, and that the lion's share is always done by a half-dozen schools in the vicinity of Boston.

The University of Maine admits to college upon the certificate system, having upon its list of approved schools in 1901 85 schools in the State, and 13 schools outside of Maine. Evidently the approved schools are not constant in sending students, only 40 out of 98 schools having been represented in the Freshman class of 1901. This fact, and the delayed choice of college in the cases of most high-school students, suggests to the college that seeks actively to turn preparatory-school students in its direction that eternal vigilance is the price of a full class, "larger than any previous entering class in the history of the institution." The total number of new students at the university in 1901-02 represented 121 different towns of Maine, 15 in Massachusetts, and 5 in other States and countries.

Since at least half of the students at the university are obliged absolutely or morally to earn at least a portion of their college expenses by their own vacation work, or by dropping out of college for a period, it was no surprise to the committee

to find that 35 per cent. of the Freshmen had been out of school a year or more before going to college. In giving the date of certificate or last attendance in the preparatory school, 42 gave 1901; 12, 1900; 6, 1899; 3, 1898; 1, 1897; 1, 1895. Members of the faculty who come to know well the ambitions and the obstacles in the lives of college students are constantly impressed with the grit manifested by many undergraduates of small colleges. Indeed, in the case of the University of Maine, it may be safely stated that at least 50 per cent. of the letters received from preparatory-school students wishing to attend college contain a strong appeal for some chance if possible to earn money while attending the university. College presidents all over the land are familiar with letters like these, and know what a problem it is to find work for needy students.

The majority of the Freshmen had naturally not considered until their high-school days the possibility of entering college, and almost all had made their choice of college late in their preparatory-school courses. Evidently the "prospective" Freshman has an almost abnormal desire to remain "on the fence" as to his choice of college until within a comparatively short time before the opening term of college. Yet the college that seeks students must not neglect a constant pressure in all legitimate ways upon the fitting-school students; the official visits to the schools by members of the college faculty indicate that the lower classes as well as the graduating students are comparing steadily if not carefully the colleges of the State.

The answers to the question "What influenced you most in making up your mind to attend the University of Maine?" were of course awaited with interest. The policy of the college has been to distribute as liberally as possible to the fitting schools its catalogs, bulletins, and to some extent the student publications. By a large majority of answers this policy seems to be justified, for the preponderating influences of the university upon the fitting-school students seemed to be the low expenses of tuition and living, and the belief of the students of the fitting schools in the excellence of the courses. In comparison with these attractions no other feature of the college life or policy played an important part. Fifty-five per cent. of

the answers stated definitely this fact, showing that athletics, fraternities, social life, and "rattling good times" had little direct influence upon the decisions.

Of course, a father or brother who has formerly attended the college sometimes exerts an influence; not infrequently a boy wishes to go far from the paternal roof during college days; in a State institution, military drill, or the fact that the college is supported largely by the State and nation, will sometimes attract a Freshman, but even in such cases the boy will generally be considerably influenced by expenses and courses.

In recent years the university has pursued the policy of enlisting the services of the undergraduates, so far as their inclination would allow, in interesting the preparatory-school students in the college. The committee felt therefore much interest in the answers to the two questions: "What students of the university spoke to you concerning the university before you entered?" and "Upon what advantages of the university did they lay most stress?" The 65 students gave the names of 101 graduates and undergraduates, and several stated that they could not remember just how many had "talked" with them. These statistics give a percentage of 1.7 students to a "prospective." It is to be remembered, however, that far more students than come to college are prevented from pursuing a college course because of lack of funds, or for other equally potent reasons. Statistics at the university would indicate that the proportion of those forced to give up their hopes of a college course is to those successful in finding the opportunity to attend college as at least 10 to 1. The amount of "missionary work" done by the college undergraduates it is therefore impossible to estimate from these students' answers to the above questions.

It was also clear what advantage of the university the undergraduates emphasized, for 65 per cent. of the Freshmen had been approached principally from the side of expenses and courses, indicating that the college students employ of their own accord arguments the university would favor. Courses were urged by them more strongly than expenses, and it was very evident that the undergraduates were

not impressed by the athletic successes and failures of the university to the detriment of more solid attractions. Few of the undergraduates seem to have sought to draw students to the college thru arguments based largely on friendship, "good times," or "college spirit."

No series of questions nowadays would be complete without some direct reference to the influence of athletics upon college attendance. Forty-four answers were returned, 21 not answering; perhaps these feared they would be telling too much, or they may have considered the question relatively trivial. Sixteen of the 44 felt no influence whatsoever (and among these men was the best Freshman line-player of the 'varsity eleven), and 4 more felt no special influence; in short, half of those answering alleged that there had been little influence exerted upon them by athletics. About 25 per cent. felt a strong influence, and another 25 per cent. were influenced by the gymnasium or drill hall.

These statistics, as far as they can be relied upon to really express the minds of the fitting-school boys, bear out the belief of the athletic committee of the university that the influence of athletics upon the fitting-school boys is rarely very potent in determining their choice of college. But with almost every healthy American boy athletics seem to be a valuable means of directing his attention toward the larger and more serious advantages of an institution. Surely the prospective student is influenced in a quiet way by the reported prominence or absence of college spirit, and by successful athletic teams at the institution he has under consideration; at the college, too, there seems no factor of the student life that so successfully affords opportunities for a demonstration of what is, be it ephemeral or deep-seated, college spirit.

At the request of the athletic association, the following question was inserted: "If you participated in athletics in the preparatory school, what positions did you play in football or baseball, or if in tennis or track, state for what events you trained." Fifty-four players were recorded in the 65 blanks; 30 per cent. had played football, 26 per cent. baseball, 5 per cent. tennis (a form of sport neglected at the university), and 15 per cent. had taken part in track athletics. A question in-

serted at the request of the musical clubs showed that of the 65 Freshmen, 25 sang or played some instrument.

In addition the Freshmen were asked to give names of students then in the preparatory schools who were considering a college course, and from the many names presented the university has profited much. In conclusion, the Freshmen were given an opportunity to make any suggestions looking toward increasing the numbers of incoming classes. Only 29 suggestions were received, the majority of students being perhaps not quite sure in their own mind, indifferent, or not quite daring to assume the rôle of adviser to the university. Moreover, the suggestions were of a scattering nature, and did not indicate any strong opinion among the entering class. Of the answers, 9 advised the sending of college "literature" in some form to the fitting schools.

Reviewing the answers as a whole, it can hardly be felt that they give us anything absolutely new; they do, however, show that the students are thinking along common-sense lines; in the suggestions there is a noticeable lack of hare-brained advice. The statistics show that thruout the State the fitting-school boys are accustomed to think seriously about a college education; that they realize the value of money, and of knowledge; and that many of them are possessed of a sturdy desire to gain an education that they consider practical, if necessary, by the sweat of their brow. It is also evident, as far as these answers can be considered truthful, that athletics do not occupy an abnormally prominent part in the life and thought of the undergraduate.

The above list of questions was recognized by the committee as tentative, and by no means drawn up with the completeness that further experience would suggest. The results of a somewhat similar but more exhaustive canvass of the Freshman classes of representative institutions located in all parts of the United States would furnish comparisons that could not fail to determine more clearly than is now known the influences most potent in leading boys to college.

While the statistics from our greater universities would differ in some respects from those of the small colleges, it is quite possible that the answers from the small colleges would

present no great variations from the results here indicated. The small college, with moderate or free tuition, is still the best hope of vast numbers of our youth of limited means. The same heart-throbs, the same yearning for knowledge, the same struggles to "scrape together," are characteristic of the boys in all the States. And for every boy that finds the way to college open, it is still unfortunately true that ten others, or a score, or many more, who cherish just as ardent a desire to go to college, are prevented by financial or other reasons.

O. F. Lewis

University of Maine,
Orono, Me.

CALIFORNIA NORMAL SCHOOLS

In describing the competitive system of appointment of teachers in San Francisco in the January Review, I made the statement, referring to the competitors in this examination who were graduates of the four-year normal schools, that their training-school experience was one period daily for six months (amounting to 100 hours). While this statement is true for the graduates who took this examination, I would not have it go forth as a general statement that this represents the total amount of experience at present given in all of the four-year normal schools of this State. This amount of teaching experience I have been informed has been increased in some schools to 300 hours as a qualification for graduation. The statement I made referred only to those graduates who took this examination.

Frederic Burk

State Normal School,
San Francisco, Calif.

IX

REVIEWS

Development of the child in later infancy—By GABRIEL COMPAYRÉ. Translated by MARY E. WILSON. (International Education Series.) New York: D. Appleton & Co., 1902. 299 p. $1.20.

Dr. Harris, in his preface, recommends this book "to that wide class of teachers who are desirous to see the results of child study, rather than interest themselves as experts in the dry details." The translation of the second volume has been delayed some five years, and inasmuch as the book contains no reference to any original studies subsequent to 1885, which really antedated the beginning of the so-called child-study movement, we must conclude that Dr. Harris takes the *a priori* doctrine even more literally than most metaphysicians would ask. However, to be honest in the matter, it must nevertheless be admitted that there is very little, if anything, in these voluminous subsequent researches which would now require M. Compayré materially to modify his opportune and very admirable digest of them. The book is not really a digest in the sense of attempting to arrange and tell what others have discovered, but the author has a philosophy of psychological development which he wishes to exploit, and to this end, for illustrative purposes, he quotes copiously from Preyer, Tiedemann, Taine, Darwin, Kant, Mme. Necker, Romanes, and other reputable child observers; that is, he uses quotations whenever these will fit his purpose, and when they do not he whittles them into suitable shape, or simply tells what he thinks. This method gives a rounded completeness and a greater force to his conclusions, than if he stopped every few paragraphs to make apologies for the shortcomings of the fact explorers. His thesis is that all the mental faculties of the adult complex—and, be it emphasized, Professor Compayré insists that there really are "faculties"—are products of evolution traceable backward in the life of a child to simples of instinct and automatism. Judgment finds its tap root in mere

sensibility; conscience is traceable to fear, instinctive docility, and sympathy; will is a distillation from automatic and instructive acts; personality is a patchwork quilt slowly pieced together by the process of memory. The literary style, which the touch of the translator has not marred, is charming, almost chatty, except now and then, when he steps aside to bolster up a few of his pet psychological dogmas that have been cherished companions from boyhood. The salient charm of Professor Compayré's treatment is his freedom from any radical extremism, giving the reader a sense of reposeful confidence in the author's good taste, sanity, and judgment. He ever keeps fairly in the middle of the road, and does not jar one's nerves by following out any side paths to their shocking extremes, however logical these extremes may be. He makes free and sympathetic use of biological data, but he is not forever holding up our monkey ancestry to public gaze, nor requiring us to analyze our children's innocent ways by wading out into the primordial swamps to trace analogies with slimy creeping things. On the other hand, while of course he must disagree with some of the old metaphysicians' conceptions, nevertheless he does so with that grace and courtesy native to a land where dueling is still in vogue. He was brought up in the atmosphere of deductive pilosophy, and he treats it kindly and ever tries to offer gentle compromises; as, for example, he insists upon spelling "will" with psychological capitals, despite the fact that his theory has left it a winnowed and graveless ghost, not essentially distinguishable from the chimera of the sensationalists and physiologists whose wanton extremism he so sadly deprecates.

The first chapter of the book, devoted to analysis of the educative instincts, is the weakest and the most unsatisfactory. Without the extended horizon which the later writers, Groos, Morgan, and others, have given to the subject of instinct, we find ourselves with Compayré trying to get at reality by juggling with definitions. He treats imitation and curiosity as "faculties"—entities having dynamic force. It is certainly very clear that these words are merely terms expressing specific conditions. When a child's nerve mechanism for saying "mamma" is sufficiently developed, and is set off by the

stimulus of hearing some other person say the word, we use the term "imitative" to describe the condition of these specific nerve tracts. But it is usually a year or more before the child can "imitate" his mother's drawing of a round face, because the nerve tracts involved are entirely different from those of speech. We use the word "imitation" as a general term descriptive of both conditions, but the two conditions are in no organic way related. Consequently, Compayré's first chapter, dealing with such questions as when imitation "begins," to what other similarly misconceived "faculties" it is related, have no real significance.

The chapter on judgment and reasoning which follows attempts to identify the processes of perception and even sensibility with those of reasoning, and so far as the organic processes are concerned Compayré will find few disputants, in these modern days, to the thesis.

The valuable chapters of the book are those which discuss the development of the moral sense, and the weak and strong points of character. These chapters represent sound and conservative views from the standpoint of modern science and psychology. Any parent or teacher will be made more intelligent in a practical way by carefully reading them. Compayré weeds out a good many of the popular superstitions concerning conscience, conviction of right and wrong, but goes to no extremes. In the end his practical method is identical with that which the best parents, by experience, have worked out. The child is born neither good nor bad, but he has inborn instincts. These instincts are not definite and complete, and while they give us guiding cleavings of character, they nevertheless give no justification for blindly following desire. There is room for coercion and also for reasoning together. In his closing chapters Compayré returns to his philosophic problems, especially those of the formation of the sense of selfhood. Yet his treatment is conservative and somewhat practical.

Out of the fierce theoretic disputes of the past quarter of a century concerning the relative importance of acquired and inborn powers, Compayré steps to express the ripened conclusion: "If one truth has been brought out by all our observa-

tions, it is that the child can do nothing without education. Contrary to Ribot, who says that education amounts to little in comparison with innate personality and heredity, we are convinced that the action of parents, and that the action of society, are very important, and that this explains, even more than does the action of Nature, the differences between intelligences and characters." It is the sane, wholesome conclusion expressive of the whole book.

After a student has had his blood heated and his imagination fired by Lombroso and other extremists of heredity, and on the other hand is shocked by the deadened practice of existing school systems, which do not conceive of the child mind except as Locke's *tabula rasa,* Compayré's book is a safe and quieting antidote to these intoxications. Altho the book was prepared before the child-study movement entered its active period, it is a good book to read after the first fever has passed. It will make neither for pessimism nor undue enthusiasm.

FREDERIC BURK

STATE NORMAL SCHOOL,
SAN FRANCISCO, CALIF.

Ancient history to the death of Charlemagne—By WILLIS MASON WEST, professor of history in the University of Minnesota. Boston: Allyn & Bacon, 1902. xlii., 564 p. $1.50.

Among the new text-books in history for secondary schools which are appearing in response to the demands of the report of the Committee of Seven, none are more radical in treatment and in the selection of material, or of a higher standard in historical method, than this.

This book is the first of a series of which the late Charles Kendall Adams was to be the general editor. The first two volumes were originally planned to give a general survey of the world's history, divided into ancient and modern. We hope that the later plan to have the second volume deal simply with "England, France, or Germany, or by intensive topic study," will be the one adopted. The present volume contains more material than can be successfully treated, by the method recommended and planned for, in an average first-year high-school class in one year.

The book has 550 pages. It contains an analytical table of contents intended to serve as a syllabus. This may prove misleading to the average high-school student, as regards the relative importance of topics and amount of detail necessary for each. Every section (650 in all) is represented in the outlines, making the synthetic side weak. Even if the larger headings are the only ones intended to be so used, some are so vague in meaning that it is still faulty from the standpoint of co-ordination. The text is divided into six parts: Oriental history; the Greeks; the Græco-Oriental world; Rome; the Roman empire, or Græco-Roman world; and Romano-Teutonic Europe.

The Oriental history, presented in the light of modern scientific investigation, has ample illustrations, and should arouse interest in the work now being carried on by archæologists. The matter of chronology is left in abeyance, while both the Aryan and Mediterranean race theories of origin and dispersion are briefly stated.

Professor West's aim to present the works of peace rather than those of war is well illustrated in the prominence given to certain topics in the Greek and Roman sections. Those receiving greatest attention are the age of Pericles, the diffusion of Hellenic culture, the later Roman republic, and the first three centuries of the Roman empire. The last is particularly well done, and will give the empire a new meaning to the secondary-school student, being presented by topics in disregard of the chronological succession of emperors and their life-adventures.

Wars are given the briefest possible mention, but their results are generally fully discussed. Professor West seems to have a particular grudge against the Peloponnesian War, as a "Summary of event and traits" is given in one paragraph (p. 194), while Alcibiades must be looked up and given in a "special report." Xerxes' march and the Retreat of the Ten Thousand are hardly mentioned. Leuctra is the only battle illustrated by diagram, and of Cannæ this is said: "The result was the battle of Cannæ, 'a carnival of cold steel, a butchery, not a battle.' Hannibal lost 6000 men: Rome 60,000 dead and 20,000 wounded" (p. 322).

This cutting out of detail is often more apparent than real, for ample references are given and the text is full of valuable quotations from the sources. Thus, while Professor West evidently appreciates the limitations of the source method in secondary schools, he at the same time forces both teacher and pupil to better preparation by wide reference work.

Will the schools provide the necessary reference works and in sufficient number? Can the requisite amount of time be given by pupils carrying the average first-year program, to do accurate and satisfactory special-report work? Will not this close adherence to reference reading discourage most first-year students? We suggest to those preparing such series that they approach the best methods more gradually and by natural progression.

Altho the pupils may find this book means heavy work for them, certainly the teachers will feel they owe Professor West a debt of gratitude. The bibliography, suggestions for reviews, drills, special reports, further reading for advanced students, and the index, which contains all the references for topical reviews, are most welcome.

The illustrations and maps are uniformly good. The lack of proper names and "important dates" will be a delight to pupils.

Romano-Teutonic Europe is just one part too many for such a book as this, in spite of the advice of the Committee of Seven. It cannot all be well done in one year. If we cut the reference work in order to "finish" the book, the students will have a superficial knowledge of ancient history in the form of vague generalizations. A text-book is only a text-book after all, and pupils cannot read as much into it as those who have a wider knowledge of the subject.

ELIZA R. BUTLER

THE HORACE MANN SCHOOL,
NEW YORK

X

NOTES AND NEWS

Mr. Sadler's American Impressions

The thoughtful and judicious paper by Mr. Sadler on his impressions of American education, which appears in this issue of the REVIEW, was received with marked favor by the audience to which it was addressed. One of those who listened to Mr. Sadler was an American, and he recorded his own impressions in a note printed in the *Educational news*, published at Edinburgh, for January 10, 1903, which journal also contained Mr. Sadler's address in full. The American auditor wrote as follows:

In the audience, which was thrilled by Mr. Sadler's fervid eloquence, there was one inconspicuous person, as keenly interested in education as any of the men present, altho he lacked and envied them their direct participation in the noblest calling under God. To this man the orator's words of inspiration came with a force and meaning which they could have for no others. Of Scotch descent, English birth, and American adoption, this auditor felt in all modesty that he probably knew more of the subject of the address than any of the other listeners. He believed that his Scotch ancestry, English upbringing, and years of residence in the United States gave him a capacity to appreciate at once the viewpoint of speaker and auditor and to weigh the justice of the verdict given, as could no one else among those privileged to be there. To this lone listener, made less lonely in a strange city by the cordial geniality of Scotch hospitality, one of the most wonderful features of Mr. Sadler's address—more wonderful, even, than the exquisite choice of language shown and the prophetic tones in which it was expressed—was the marvelous grasp of a complex subject which he displayed, the keen discrimination which must have been exercised in gathering the facts, and the open-minded fairness used in balancing those facts and observations, and so summing up that there should be a minimum of prejudice and a maximum of justice in the presentation of the case. If this American may be permitted a word or two of criticism of Mr. Sadler's address, he would sum it up thus, tho he realizes that he is only expressing his own opinions, and that even in so small a manner it is an audacious performance to oppose his opinions to those of so justly esteemed an authority.

1. Mr. Sadler, by his upbringing, seems hardly to do justice to the merits of a disciplinary system based on interest rather than on the more

drastic methods which are apt to waste energy and to degenerate into mere repression for repression's sake.

2. Mr. Sadler has some foundation for his criticism of the laxity of discipline in American homes, but not so much as he thinks. When he blames American parents for suffering or even encouraging their children to criticise their teachers, he must remember that there is a far keener interest in education among parents in America than in England,—probably greater even than that in Scotland,—and that his strictures are hardly borne out by the indisputable facts that there is, on the whole, much greater sympathy between teachers and parents in America than in the United Kingdom, and that teachers are far more respected there than here.
3. Mr. Sadler hardly laid sufficient emphasis on the incalculable value of that earnestness which characterizes American education, business, and life generally. It has the danger of running into narrowness of concentration, but the quality's value far outweighs its defects.

The Dual System of State Educational Control in New York

Greatly to the regret of everyone, and greatly to the disadvantage of the schools, the old-time friction between the two educational departments in New York State has again generated heat and a blaze before the legislature and the public. The ostensible cause for the present outbreak was a dispute between the two departments as to which should administer the proposed appropriation to pay the high-school tuition of non-resident pupils; the real cause is the fact that there are, illogically, expensively, and unnecessarily, two State educational departments instead of one. Similar disputes will arise from time to time just as long as the two departments are allowed to exist.

The EDUCATIONAL REVIEW expressed itself freely and emphatically upon this whole subject in 1899 and in 1900, when an admirable proposal to reduce the two departments to one was before the legislature. We thought then, and we think now, that narrow-mindedness, stubbornness, and selfishness combined to defeat a movement that was wholly in the public interest. We are still of opinion that a consolidation, or unification, of the two departments is absolutely essential to the proper conduct of the State's educational interests, and we are as little concerned now as we were then with the details of the scheme, provided only the main purpose is attained.

If a new State were being organized and the details of its ed-

ucational system were being worked out, it would be wise and proper to offer for adoption a logical and complete plan for the supervision of its schools and colleges. To do this in an old, complex, and highly organized community, on the other hand, is to invite disaster from the start, and to defeat the very end aimed at. Therefore, the first question to ask is, What is the least that needs to be done to reduce the two departments to one? We answer now, as we did in 1899 and in 1900: To transfer the existing Department of Public Instruction bodily to the jurisdiction of the Regents, retaining in office all existing officials, and providing for the choice of their successors by the Regents. The Regents are a constitutional body, and the desired unification is quite unattainable in any other way than this, and always has been so.

But, it will at once be said, if the Regents are to have this new power, they should be reorganized. That is certainly true, and it is admitted by Regents themselves. We shall be glad to hear that the Regents will propose, or will assent to, without opposition, a proper and non-political reorganization of their body in view of the new and wholly strange responsibilities that would be placed upon it under the terms of any possible plan for single State control of education. If, however, the Regents take another view and resist reorganization, and if their attitude seems likely to defeat unification, as it did before, then—rather than postpone unification to the Greek Kalends—we hope that Superintendent Skinner will take the large and unselfish view, and throw the weight of his influence for unification in any event. In such a case the real triumph would be his, together with the credit for having brought about a long-desired educational reform. It may also be assumed, we think, that if unification is once gained the reorganization of the Regents will follow rapidly, perhaps by unanimous consent.

The Regents have made public the following document:

To the Governor, the Legislature, and the Peoples of the State of New York:

Recent manifestations of the evils arising from the existing dual system of State supervision of public education and an earnest conviction of the duty to take and keep the schools out of politics have constrained the Regents of the University to advise and request that by suitable legislation

the exclusive power and duty of such supervision be committed to their board. Their unbroken record for more than a century shows that they have not been eager for enlarged powers, and that, in the words of Governor Odell's unsought but prized encomium, they have been "absolutely without partisanship and actuated by the highest motives and the purest sentiment."

The supreme importance of the cause of public education and the wrong of leaving it exposed to the danger of partisan control need neither stating nor urging; and it must be plain that educational interests will be promoted when such unified supervision removes that danger and abolishes hurtful and unhappily frequent contentions between the present two departments. Respectfully submitted,

WILLIAM CROSWELL DOANE, Chancellor; WHITELAW REID, Vice-Chancellor; CHAUNCEY M. DEPEW, WILLIAM H. WATSON, HENRY E. TURNER, ST. CLAIR MCKELWAY, DANIEL BEACH, CARROLL E. SMITH, PLINY T. SEXTON, T. GUILFORD SMITH, LEWIS A. STIMSON, ALBERT VANDER VEER, CHESTER S. LORD, THOMAS A. HENDRICK, WILLIAM NOTTINGHAM, CHARLES A. GARDINER.

February 12, 1903.

The arrangements for the Boston Meeting of the National Educational Association are proceeding effectively and rapidly, and an announcement of the detailed program will shortly be made.

By the untimely death of Edward R. Shaw, the real founder and inspirer of the work in education done for years past at New York University, American education loses a devoted and unselfish representative.

Dr. Shaw had but just accepted an election to the Superintendency of Schools at Rochester, N. Y., and a new period of useful service seemed to be opening before him.